

# ITEMS OF INTEREST.

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## *Notes from the Profession.*

### AMALGAM: ITS USES AND ABUSES—METHODS OF INSERTION

DR. W. G. A. BONWILL, PHILADELPHIA.

In New York Odontological Society.

Since the cold reception given to the "New Departure," no one has deemed it prudent to openly advocate the use of amalgam, though its employment was not curtailed to any great extent. The "cold wave" was not without its sequel of advantage in arousing the profession to look more closely and honestly into the respective claims of the combatants. Good, I think, has resulted rather than harm. Those who had previously used it could not well consume more; while its enemies used no less. The very few who swore they never did use it possibly remained neutral. That it did arouse certain of these neutrals, whose hands needed no washing from its stains, all remember from their acrimony.

In my opinion, there was not an answer in any fairness and courtesy to the main issue. Abuse and ridicule ruled the hour. That the trio who promulgated its philosophy were honest in their convictions, I have no doubt. Unfortunately, however, they reasoned "without their host." Had any of these discoverers been adepts in the use of the best methods of filling with gold, and had they consulted with those who had been successful with gold, I am sure they would not have been so dogmatic in prescribing for universal use a material which is good only when intelligently used. They were too sure of their game, and lost immensely of their prestige by being too hasty. To strike at the foundation of a century's work, which was improving every day as education was more general, and a larger number of good men were coming to the front, was not safe.

It was well that amalgam should have its hour of trial as proof of its value and power. It had stood comparatively well; and, as was apparent, had "come to stay." Gold had charms to every dental artist who had become expert in its manipulation; its trials were great and its weakness was seen by those who were its friends. *Per se* it

was all right. The fault lay at the hands of the operator and surroundings. So much had been said against amalgam, that experiments were made privately. This bold effort of the trio to push to the front an improved article, at the expense of the character of so high-toned a metal as gold, must needs meet with a like boldness to uphold it. Then the trio, while not scientifically answered, were discomfited and made to recant by modifying their creed. The pendulum came to rest; and, while the creed is not accepted, a better feeling exists, and the improvements made in the article and the mode of placing it into cavities, and the more thorough preparation of the latter, have given assurance of reason having again taken her throne.

Speaking for myself, I have no apology to make for its advocacy. I used it cautiously, after I had passed the age of prejudice, in the first eight years of practice. For awhile, after getting the electric mallet and dental engine into shape, in 1869, I was so infatuated with gold that I quite lost my head, and my cry was "onward," and down with amalgam, though I had not been extravagant in its use. When I removed to Philadelphia, in 1871, a new era confronted me. I found, while I could build up a structure with gold to any height, many reasons were soon offered, from failures of my own and others, to seriously warn me that there was a limit to my ambition, and I cried a "halt." The rescue came in a new mode of crowning, in 1873, by the "nut and bolt," and soon after, with the "all-porcelain crown." But I found many partial crowns too good to be cut off. Amalgam, I had learned, had some good qualities, and I anchored all my pins with it after having failed with gold for that purpose. In my effort to conserve all the structure of the root, and use large pins, I had but little room to press in the amalgam around the pin. This obstruction I soon overcame by the use of Japanese bibulous paper, which, when placed over the amalgam, enabled me even with the thinnest blade of steel to compress it high up in the root and absolutely solid and firm at once, as it pressed out all the superabundant mercury. This application of the paper was at once applied by me as a pad to consolidate all amalgam fillings. I was now satisfied I had reached a point when I could safely rely on this hitherto uncertain article. Finally, after severe tests, I gave this method to the world, confident it would insure results which had never before been possible by any other method of manipulation. Like all other good things freely given, it was not at first appreciated. It has been gaining ground, and one of England's celebrated dentists was pleased to say and publish that it was the most satisfactory method ever advanced, and that he "would have crossed the ocean to have seen its use." That it has had a determining effect on the future career of amalgam, I need give no stronger

evidence than its history in my own city. Up to the advent of this new discovery, the schools there would not allow any one to give a clinic on filling with amalgam. One professor said "it made slovenly, careless operations," and "it would be especially harmful if taught in our dental colleges," though this same gentleman had shortly before his professorship been a manufacturer of amalgam. Another high-toned dentist of our city, at the same meeting, went so far as to assert that "*all men who are falling away from manipulative ability will lean on plastic materials, but it is an unphilosophical way of dealing with the subject.*" One said he was afraid to have physicians know he used amalgam at all. One of the trio was not allowed to give clinics in his own college, but was forced to do so in his private office. The use of bibulous paper in manipulating amalgam was finally admitted as yielding superior results, and in 1883 I was permitted to give a clinic in each of the colleges in our city, and have done so ever since. Does this not show that there has been a wonderful advance in so short a time? What caused it?

While the professors were honest and right in their fears from its introduction to their classes, they were perfectly willing for me to clinic; for they had the assurance that, if I could afford to advocate plastic materials, when I had spent so many years in inventing and improving machinery for the better preparation of cavities and for packing gold, I must assuredly be honest in my convictions. Had I not so frequently demonstrated for years, here and elsewhere, before hundreds of students and practitioners, that I was capable of manipulating gold both by hand and by malleting, they would not have permitted such an innovation.

One prominent dentist of your city said, "Bonwill, I am surprised at your advocating the use of amalgam when you have the best machine in the world to pack gold. You should fill all teeth with gold."

The teachers then saw I was honest in my convictions, and my mode offered such inducements that the time had arrived when they could safely permit me to go before their classes. The profession at large must give me credit for this bold effort to uphold amalgam—not as a *sine qua non*; not that gold should be abandoned; but as a grand adjunct, where faithfully and judiciously used, in saving thousands of teeth, *by those who know not how to manipulate gold*, and as one of the greatest of boons in the hands of those who know well *how and where to use gold*.

I have made one mistake in my experiments in making alloys of tin, silver, and gold. When I placed pure gold in the mercury, to enable me to control a larger amount of it in the alloy than I could possibly do in the crucible, and have it easy of manipulation, I made

a mistake, but fortunately found it out before much mischief was done. It was the greatest mistake of my life. It would not have gone further than my own practice but for the clamor of others for it before sufficient time had elapsed to see results. So far, I see no reason to abandon the use of seven per cent gold in an alloy of tin and silver mixt in the crucible if placed in the cavity under heavy pressure with bibulous paper. There are other good amalgams that will be found to give better results when treated by this new-mode manipulation. Therefore, gentlemen, you who have not tried it, do so and you will grant it to be a revelation which will cause you to think more of amalgam. I only wonder, at this late date, how I ever made my alloy fillings compact and contour by simple pressure of a blunt piece of steel. Talk of rotation being a big improvement over the mallet system! It is nowhere in comparison to the value of this new method in forcing and consolidating amalgam; the very thing of all others that needed a push and the support of some creditable operator.

Dentists generally are not willing to advocate the use of amalgam and have their remarks paraded in the journals. It is disgusting to see so many who are afraid physicians will ruin their practice. Against such sentimentalism I have ever entered my protest, and have dared to advocate whatever I have found to be of advantage, presuming to know more about dental science than any M. D. Thus far I have lost a few patients and one medical man from my ultra use and vindication of its character.—*Cosmos*.

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### IT IS WORRY THAT KILLS.

Editorial in *Wesleyan Christian Advocate*.

Do you believe that? Work never killed anybody yet. But you and I meet men and women every day, who are dying by inches with worry. There goes a man now, who worries if his business is not going right, and when it does go right, he worries for fear it will go wrong. The lines of discontent and anxiety are on every feature of his face. He has fixt deeply in his character the habit of fretting, and life is a burden to him. The man does not seem to realize it, but he is slowly and surely committing suicide. Death results often, not from heart disease, nor lung disease, nor blood disease, as the doctors say. Call the cause of death by the right name. Then self-murder will be the verdict, for very many cases over which no coroner empaneled a jury.

After leaving school I went to study for awhile with Dr. Milburn, "the blind man eloquent." He impressed on my young life then a great many lessons. Among others this: "My boy, the majority of men die of worry. The best work of a man's life ought to be done, between the ages of fifty and seventy. And yet most men are dead at

fifty. Avoid fretting, if you would live long and reap the best fruit of life." From that time till now, I have been a close student of men. Dying too early is the common fact of life. Men are grey-headed at forty, and shelved or dead at fifty, that ought to have done the best work of life between fifty and seventy."

I often think of poor Byron, who fretted life thread-bare, at thirty-six—dying at that age plaintively singing:

"My days are in the yellow leaf,  
The flowers and fruits of life are gone,  
The worm, the canker and the grief  
Are mine alone."

"Worrying over his business brought on paralysis," the doctor said of a friend, who died recently in a neighboring city. It will kill every time. If you have no organic disease, it will bring organic disease. Just begin to worry and in head, or heart or lung, or liver, or blood, somewhere disease will set in, that will wear the soul and waste the body.

Bishop Marvin's life is admirable, in a great many respects. No man can study his character, without coveting earnestly a great many of his gifts. In reviewing his career recently, this fact struck me as never before—there was no fretting in his life. When those four old preachers overtook him returning from that first Conference, and advised him to go home, and not try to preach any more, an ordinary man would have broken down and quit. But he did not start out to preach to please men. After listening to the "godly judgment" of these old brethren, he went to the secret place of power, the place where he received his commission to preach, and the voice said again, "Go preach my Gospel!" And he went. If he was awkward and ungainly at first, he did not fret about it; he worked on, till every movement of his body was grace. If his voice was harsh and high, there was no worrying over that; he worked on, till men said his was the most eloquent of tongues. His education was limited; he was unlettered and unlearned; but there was no chafing over this. He worked on, till the ripest scholars of the age were honored by his companionship. He started life with the germs of a deadly disease in his body; but there was no repining over that. He worked on, making as brave a fight as a man ever made. So that when dead, the post-mortem revelations made the physicians marvel that he had lived so long.

Reader, quit worrying. Work more and worry less. If you have a good strong, healthy body, don't waste it away by fretting; keep it strong and vigorous by working. If you have a frail body, so much the more necessity for calm, self-reliance. It is not the hurried, fevered, anxious worker that accomplishes the most; but the one who calmly does his work with constancy and cool perseverance.

## CALCAREOUS DEPOSITS.

DR. L. C. INGERSOLL.

There are two varieties of calcareous deposits found on the teeth, salivary and sanguinary. The former is located on the crowns or on any exposed surfaces of the teeth; the latter on the roots of teeth covered by the gum and other tissues.

*Salivary* calculus is, in color, from a light cream to a dark yellow, depending on its age and the habits of the individual. Tea, coffee and tobacco deepen the color and may render it black. When first deposited it is soft enough to be removed with a tooth-brush. But in time, a few hours even, in some instances, it hardens into a kind of cement, adhering firmly to the teeth. It takes a form which is controlled by the action of the tongue and the process of mastication. It is friable and easily broken into pieces when scaled off with an instrument.

*Sanguinary* calculus is of dark color, from a light reddish-brown to black. It exists in form of irregular crystalline granules, scattered along the root, or massed into a considerable body of irregular form, about the apex, or in a line encircling the root just below the free margin of the gum. It is much harder than salivary calculus and adheres more firmly.

*Salivary calculus* is composed of both mineral and organic substance; about 75 per cent of the former to 25 per cent of the latter. The mineral elements are carbonate and phosphate of lime, and chloride and carbonate of soda. The organic material consists of particles of food, epithelial scales, dead mucous cells and mucin; and in the mouths of smokers, an intermixture of carbon.

*Sanguinary calculus* is composed chiefly of lime salts colored with the hematin of the blood, which increases its tendency to take crystalline form.

*Salivary calculus* is deposited from the saliva; hence its name. *Sanguinary calculus* is deposited from the *liquor sanguinis* of the blood; hence its name.

The etiology or cause of the deposit is this:

Saliva is the mixt fluid from all the salivary glands and mucous follicles, and is either alkaline or neutral, when in its normal condition. On exposure in the mouth to the atmosphere and to the decomposition liable to occur, it becomes changed, and may be found either strongly acid or strongly alkaline, holding in solution lime salts. On the formation of acids in the mouth, a decomposition takes place and the lime salts held in solution in the saliva are deposited on the teeth. Carbonic acid from the atmosphere becomes also a decomposing element, having a strong affinity for lime, it unites with the lime in salivary solution, forming *carbonate of lime*, which is precipitated in the

same manner that lime is precipitated from "hard" water and deposited on the walls of a tea kettle or other vessel containing it. The phosphates are caused in a similar manner.

*Sanguinary calculus*, being precipitated from liquor sanguinis is formed *only in connection with the suppurative process* of inflammation. The liquor sanguinis, constituting the watery portion of blood, holds in solution all the mineral elements entering into the formation of the hard tissues. When in the progress of inflammation the suppurative stage is reached and liquor sanguinis is transuded, it soon degenerates by the active decompositions and recompositions that take place in the formation of pus, and in the process, the lime salts held in solution in the liquor sanguinis, are liberated, and deposited on any hard substance within the area of suppuration. When sanguinary calculus is found encircling the roots of teeth below the free margin of the germ, it is the result of ulceration of the gum. When found within the sockets on the sides and apical extremities of the roots, it is the result of *peripyema* or of deep-seated ulceration—*not* of alveolar abscess—the calcareous deposit being found on the surfaces must be freely bathed with the pus in its most primitive condition, hence at the point of most active inflammation.

The salivary and sanguinary calculi do not sustain the same relation to the etiology of disease. The former may be a *cause* of ulceration; the latter is a *result* of ulceration. In every instance, the suppurative process must *precede* the formation of sanguinary calculus.

A supersaturated alkalinity is indicated by a rapid deposit of salivary calculus.

A deposit of lime on the teeth may be an incidental protection against decay of the portion of the tooth covered. But it is ordinarily found covering that portion least liable to decay. Even if the decay of tooth substance should be entirely prevented by an incrustation of lime, the deposit creates an evil *far worse* than decay, by causing disease of the gum and peridental membrane, and destruction of the alveolar processes—conditions much more difficult of treatment than decay of the dentine.—*Ingersoll's Dental Science*.

**A Person suffering from Nervous Prostration**, says, in a private letter: "The nerves are the man; shatter them, and the spirit is dethroned and the pains of hell are its portion." Nothing truer was ever written. Among the voluntary methods of shattering them of which men are guilty are overwork, hurry, worry, using ardent spirits, tobacco, morphine, patent medicines containing opiates and stimulants, irregular habits of eating and sleeping, too much social dissipation, and trying to run the whole universe instead of the part that God and Nature qualify them to manage.

## CONTOUR FILLING.

DR. S. G. PERRY.

I am satisfied, many of the older members of the profession—those whose professional life commenced when what is now known as the Arthur system was accepted practice,—are not even yet aroused to the importance of paying sufficient attention to the strict shapes of the teeth. By strict shape of the teeth, I do not wish to be understood as advocating the absolute restoration to the complete outline of the tooth in all respects, but I do mean a restoration that shall give firm lateral support to the teeth and complete protection to the gum. This does not by any means imply the need of building out in all cases large fillings that shall conform to the original shape of the teeth. Many teeth would not bear this, and some that would might not be sufficiently benefitted to justify it. I do not want to be considered as going to extremes in this for the sake of contour; I only wish to be as emphatic as I can on one point—the firm point of contact!

It is my conviction that among the minor evils of dental practice at the present day—and I cannot believe that dental practice is as yet for our patients an unmixt good—there is none so great and none so common as this wide-spread habit of disregarding the natural shapes of the teeth.

Through all that demoralizing period which followed the publication of Dr. Arthur's book—a period which I wish could be blotted out of my professional existence—it was my good fortune, though I became a convert, and practiced his system, to keep my destroying hands off the teeth of many of my patients, and to-day those patients are the ones by which I wish my professional work might alone be judged. Therefore, I venture to claim to be heard on this subject. It is not a new subject with me. At the risk of tiring you, I will read a short extract from a paper I presented before the State Society at Albany ten years ago this month. It will show you what conclusions my experience had led me to then, and will enable you to see how they are confirmed by what I have to say:

Whenever full contour fillings are made, they should be so shaped as to touch firmly at the grinding surface. No compromise whatever can be allowed here. If even a slight space is left between them at this point, food will force through and lodge against the gum, and cause all the annoyance that can be expected from the worst kind of permanent separations. In view of this, I think it necessary, and sometimes even unwise, to fully restore teeth that, from the loss of a neighbor or a change in the occlusion, must eventually move slightly apart. I think it better to anticipate such inevitable change of position, and make at once a free self-cleansing space down to the gum. Such an open space is less annoying than one wide at the gum but narrow at the grinding ends of the teeth. I am led to think that some operators, who claim to have had unfavorable results with contour fillings, have not



prepared their cavities so as to get free margins, and have not always taken nature as a guide and carried their fillings out round and full, and so shaped as to touch firmly at the grinding surface, or at any point between it and the gum. To a certain extent it is unfair to admit the testimony of such operators against contour fillings. The system of restoration is one that must be practiced thoroughly, if it is attempted at all. I suppose it is unnecessary to speak in condemnation of proximal fillings filed flat, with no attempt at securing a self-cleansing space, or a perfect contour. Such aimless operations show either carelessness or inability on the part of the operator. They are worthy to be classed among the early efforts of the dental profession.

It may be thought that I take strong ground in favor of contour fillings. As a general rule of practice to be applied in most cases, I certainly do. I am forced to this position by my own observation and experience.

Let me hastily sketch that experience, though it compels the use of the personal pronoun oftener than I wish, and betrays me into the expression of motives and feelings when I ought to be giving you scientific reasons for the conclusions I have reached. My earliest method of managing these surfaces was to cut till I reached sound structure, and then to fill even with the edge of the cavity, giving little thought to the shape of the teeth, the safety of the gum, or the danger of future decay. This was before the rubber dam. Later, under the influence of the late lamented Dr. Varney, and from observations of Dr. Atkinson's method, I became convinced of the advantages of accepting nature as a guide, and for several years, in most cases, I made strictly contour fillings. In 1870, in a paper read before the Odontographic Society of Pennsylvania, and published in the November *Dental Cosmos* of that year, I am on record in favor of such operations. Several years' experience developed no objections to them, except that they were difficult to perform, were expensive, and confined attention to a limited number of patients.

After the publication of Dr. Arthur's book, I began to question if I had not been doing unnecessary work. A careful study of this system, with such observation of its practical effects as I could obtain, led me to think favorably of it. A growing practice forced me to be ready to accept any methods that fairly promised the greatest good to the greatest number. Therefore I "first endured, then embraced." I commenced timidly, but grew bolder as I became more accustomed to cutting the teeth. Finally, I became so demoralized as to willingly destroy the shapes of teeth that I had before guarded with jealous care. My general rule was to reduce the surfaces in contact to a point of minimum size. The result of that practice, extending over a period of four or five years, has not fulfilled its promise. It has proven instead a source of discouragement and mortification. Failures which formerly occurred only in reasonable numbers have, under this system, been surprisingly frequent. The average of operations performed seven and eight years ago are to-day standing more securely than the average of those performed three and four years ago. Irritation of the gum and change of position of the teeth which could not occur before have frequently followed this practice, even though I have taken the greatest care in making the spaces.

There has been left me, therefore, no alternative but to return to the restoration of the shapes of the teeth as a general rule of practice. Considerations of pecuniary interest would lead me not to do this. The hope of health and long life are certainly not strengthened by it. But it has come to be so much a subject of conscience that I have no choice. I can no longer adhere to the practice of permanent separations and feel that I have rendered my patients the service they have

a right to expect. Nor can I longer bear the demoralizing influence which this practice encourages and begets. During the last year I have been restoring the shapes of the teeth, and the feeling I have had suggests the return of the prodigal son. If I have any satisfaction in reviewing the labor and experience of the last five years, it is that I have learned between what teeth and under what circumstances permanent separation may be safely and advantageously made.

In reply to the general statement that restorations necessitate hard work, I can only say there can be no excellence without labor. In the very nature of things, there can be no royal road to permanent success of any kind. But I think it will weary one but little more to devote six hours each day to a few operations which are performed well, than to give six hours to a large number which cannot be performed so well.

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### RIGGS' DISEASE.

DR. G. E. CORBIN, St. John's, Mich., says: The teeth in a bad case of pyorrhea alveolaris, falling to the care of the average practitioner of general medicine, would most certainly be extracted. Not understanding the exact pathological condition, his application of astringents "to harden the gums," so frequently made, would be of no avail, and extraction would follow. *No one* can perform miracles. The teeth in this disease when first seen by the dentist are often so extremely loosened as to make extraction the only alternative; nevertheless, in a large majority of cases successful treatment is possible. Notwithstanding this disease when fully established, with pus oozing from the margins of the gums at necks of each and every tooth in the mouth is loathsome beyond description; its treatment is simple and efficient, and consists, in the main, like that of all other diseases, simply in *removing its cause*. There is *always* a local or exciting cause.

Sometimes, but *not* always, there is a predisposing cause.

The predisposing cause would be constitutional and naturally fall to the care of the general practitioner.

The *dentist* must assume the responsibility of the *local* treatment, which is much more frequently demanded, and of paramount importance, I do not dispute that in some exceptional cases it may be *possible*, but I have yet to be convinced that any kind or process of treatment will, with any sort of certainty or uniformity, cause wasted alveolar process to be reproduced.

Where the teeth have not been loosened beyond the possibility of being reclaimed, I have found satisfactory success in the following simple treatment:

*First*, thoroughly remove all tartar, salivary calculus, sanguinary calculus—every particle of foreign substance of whatever nature, from the necks of the teeth to the very bottom of the deep pockets formed by separation of the gums. Where the gums are greatly hypertrophied, as well as separated from the teeth, the tumefied projecting festoons

may be snipt off all around with sharp pointed scissors. The bleeding thus caused will reduce both their volume and their inflammation. The congested capillary blood-vessels being thus so generally severed, hyperemia and the process of hypertrophy are at once and completely arrested.

The bleeding thus induced should be encouraged for a short time. While waiting for this, the teeth, if much loosened, should be wired or tied securely in place. All coagulated blood should then be removed by syringing with tepid water, or, what is perhaps better, a weak solution of chloride of sodium.

With a small pledget of cotton on the point of a delicate and suitable instrument, I carefully, yet thoroughly, smear all pus-producing surfaces with the old reliable article, creasote. I am well aware that peroxide of hydrogen and some other new remedies are more popular just at the present time, but creasote carefully and moderately applied will fulfill all the indications in this and in some other cases, and do it most perfectly. It should be applied undiluted but not in excessive quantity. It effectually destroys a thin film of diseased surface, and *never* acts deeply. It coagulates the albumen of the surface tissues, forming a thin pellicle which remains for several hours as a protection to the sensitive tissues beneath, and when thrown off reveals a healthful granulating surface in nearly all cases, if bodily condition be good.

Having secured such a condition of the parts, these healthful granulations must, so far as practicable, be protected from irritating secretions, and especially from solid particles of food. This can be well accomplished by loosely and smoothly packing the spaces between the gums and necks of teeth with cotton which has been soaked in some antiseptic preparation. I have generally used phenol-sodique considerably diluted, and find that it answers an excellent purpose. This cotton should be daily removed, the spaces syringed and again filled as before, being careful to use no more cotton than is actually required to exclude the food. It may or may not be necessary to make a second application of the creasote. Daily observation of the condition found will determine that question.

As irritation from the pressure and friction of foreign substances accumulated on the necks and roots of the teeth is the principle cause of this difficulty; so, perfect cleanliness—complete exclusion of foreign substances, is the one essential and indispensable feature in its successful treatment.

By following the simple course of treatment here briefly outlined, I have been astonished at the rapidity and extent of recovery. Many manipulations that at first appear difficult become simple by careful and intelligent practice.—*Dental Register*.

## AMALGAM.

DR. DWINELLE, says in the *N. Y. Odontological Society*: I have used spunk in packing amalgam, but I have been careful to select a good article. Dr. Cook, of Brooklyn, has stated that he thinks the old amalgams were not much different from those we use now, and that he cannot see that the new are any better than the old. I am inclined to disagree with him in that opinion, for a variety of reasons. First, the old amalgam; which was made from old Spanish milled dollars filed up with a new file, contained more or less copper, an element which is almost sure to blacken the filling. Another bad element was the result of the use of a fresh file, which left considerable steel mixt with the silver, and which had a tendency to oxidize the entire mass. I think our modern amalgams made of alloys of different metals, and which are the result of many years' experience and much thought, are very much better than those formerly used. The old amalgams were sure to turn very black, while some of our modern amalgams do not change their quality or color at all. I have seen amalgam fillings several years in use which were preferable to gold. They approximated nearer to the color of the teeth.

A word with reference to the tendency of amalgam fillings to blacken in consequence of coming in contact with gold or other metal fillings in the mouth. That depends on a great many circumstances, some of which we are not able to define at present. I saw an amalgam filling in the mouth of a lady to-day that was exceptional in that respect. The tooth containing it was a lower molar, the front part of which was built up with gold over thirty years ago. About three years ago I found the back part of the tooth had decayed considerably, and the circumstances were such that I determined to fill the cavity with amalgam and have it come forward and join the gold. I had the pleasure of seeing it to-day, and the amalgam is nearer the color of the tooth than the gold is, and the gold has not changed color. We often come across combined fillings which are entirely unobjectionable in character. The lady just referred to told me she had never had a galvanic twinge nor a suggestion of anything of the kind, in that tooth.

Our homeopathic friends naturally apprehend some constitutional ill effect from amalgam in the mouth, thinking also that it antidotes their remedies. I think the incident related by Dr. Francis fairly illustrates the fallacy of their theories in this respect, and that the objectionable qualities of amalgam exist only in their fancy, which fancies are of the *highest possible dilution*.

We know that all the metals will oxidize; even gold will oxidize to some extent, and the chippings or filings of alloy are particularly

susceptible of oxidization. On that account I think that it is important that we should wash the amalgam. I use the ordinary washing soda for that purpose; and have sometimes washed away from one-quarter to a third of the substance of the amalgam.

In the early days of the profession there was an intense prejudice against amalgam, and it was carried to such an extent that some members of one of our early associations were ostracized and expelled because they used amalgam. One association went so far—I am ashamed to say, for I was a member of it, though not active in that direction—as to require each member to sign a pledge that under no circumstances would he use amalgam, under pain of expulsion. Many men—to their credit be it stated—submitted to expulsion rather than be so restricted. It is a curious fact that some who in that early day were they most persistent in restricting dentists in this respect were men who, when driven into a corner by cross-questioning, confessed that “they had never used the ‘dirty stuff’ at all,” which shows how well qualified they were to judge of its merits. I have been in the habit of using amalgam through most of my professional life, and latterly perhaps more than ever; not because of advanced age, or because I am growing lazy or indifferent to the welfare of my patients, but because I feel it to be the best under many circumstances. I have been as much a special advocate of gold as any one in my profession, yet I should hold myself in contempt if I refused to be governed by the evidence of my own senses. I use amalgam when I think it is necessary in building up crowns and in other ways; but still I am loyal to my first love, gold.—*Cosmos*.

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**Learned Physicians Again.**—Dr. Loofbourrow, of Belle-center, and his very able assistant lady dentist, Mrs. Dr. Jessie Dillon, was consulted by Mrs. M. J. Keers in regard to a supposed malignant trouble in her upper jaw. She had consulted a dentist and several physicians, all of whom told her the jaw bone was decaying. Six years ago the lady had all her teeth extracted, and has since worn artificial teeth. About the first of the year she began to experience something like neuralgia in the right side of her face, followed by swelling and discharge of pus from the gum. The abscess did not heal, but left an ugly looking opening into the roof of the mouth, resembling cleft palate, pointing rear the median line. Severe pain was felt on pressing the finger in the region of right cuspid. Imagine her delight when, after examination, the cause of so much trouble and anxiety was ended by the extraction of a well developed cuspid which had never came through.

## DISCOLORATION OF DENTINE.

The following question and answers are found in Vol. II., 1861, of the *Cosmos*. What further light have we now?—ED. ITEMS.

I have a front tooth to treat, which, years ago, was filled with gold; its nerve having previously died. It has been dark colored nearly ever since it was filled. It is now stained throughout the entire dentine. What is my best course to restore it to its natural color? Let me hear through your next *Dental Cosmos*. T. B. WELCH, M.D.  
Winona, Minnesota.

P. S.—Can any of our readers answer W. correctly? Ed. *Cosmos*.

ANSWER BY C. WOODNUTT, D.D.S., POTTSVILLE, PA.

In answer to T. B. Welch, I will give you a method of restoring a tooth, in the condition he speaks of, to its natural color, which I have used with tolerable success. Clean the cavity well with excavators, without taking away more of the dentine than is necessary—for a dead tooth is brittle, and you want as much of it as you can retain to add to its strength. After this has been done, I saturate a pledget of cotton with liquid chloride of soda (Labarraque's solution) and place it in the cavity, pressing it in contact with all parts of it, if possible. Your object will be obtained much more rapidly, if the cavity is then sealed up with wax, or some other material, to prevent the dilution of the chloride by the fluids of the mouth. The application should be renewed every day until the tooth is bleached as white as you want it.

It sometimes takes two weeks to restore the color, in a bad case, but I think the above treatment will eventually succeed if persevered in. The solution certainly contains capital bleaching and disinfecting properties.

With reference to bleaching teeth, as recommended above by Dr. Woodnutt, we would say that if "*persevered in*," it will destroy the tooth. If it be used at all, it must be for a very limited time, and not very strong. The experiment of placing a tooth in Labarraque's solution for forty-eight hours will solve the problem.—ED. *Cosmos*.

ANSWER BY W. H. ATKINSON, D. D. S.

The following is sent in reply to a request for information on bleaching teeth by T. B. Welch:

Open into nerve canal through lingual depression, and clean out all retained matters to the apex of fang. If the tooth is not tender, proceed to enlarge the canal with watchmaker's brooch set in a handle till cylindrical to the point; excavate all that you may and retain strong walls to the cavity of crown, opening every tubule to facilitate introduction of bleacher. Then take accurate measure of the depth of

canal and pass in a truncated bur or rose-head drill, or brooch, a size or two larger than the one previously used, to within  $\frac{1}{8}$  or  $\frac{1}{16}$  inch of the apex, thus leaving a shoulder against which to pack. Then pass a pledget of cotton wet with pure creasote, into a part of the canal between this shoulder and the point (if the cotton should project a very little beyond the apex no matter), and proceed to fill imperviously half the remaining part of fang-canal with gold, thus securing against the possibility of escape of the bleaching solutions which are so troublesome where freely used, as they must be to obtain the best results. Now proceed to pass solid chloride of zinc into the canal and pulp chamber, taking care to mash it into fine bits or powder *in situ*, to secure promptness of bleaching effect; close tightly with paper, cotton, or wax, for fifteen or thirty minutes, after which wash out thoroughly with syringe charged with *warm, pure* water. Repeat process until the color is restored, and then fill nicely.

I should prefer to repeat every half hour or hour until complete, but often we cannot control the patient's time sufficiently, when the repetition must conform in time to his (and our) convenience.

Cleveland, Ohio, June, 1861.

ANSWER BY C. A. KINGSBURY, M.D.

In the *Dental Cosmos* for June, I noticed a brief article on the above subject.

As it contained the inquiry made by Dr. T. B. Welch, seconded by my friend, Dr. J. D. White, on an important but hitherto much neglected point in dental practice, I feel inclined to reply to it. I am the more strongly prompted to do so from the fact that in none of our standard works on dentistry have I, as yet, seen any treatment laid down for such cases.

Tomes, in his *Dental Physiology*, refers to this subject, and no doubt assigns the true cause in most cases of discolored teeth; also in his *Dental Surgery*, in treating of necrosis, he notices the discoloration of dentine as a frequent consequence of the loss of vitality in the teeth. He also speaks of the dark stain caused by the application of nitrate of silver to allay the exalted sensibility of dentine; but in no instance does he give a single direction for removing the discoloration and restoring the dentine in any degree to its normal shade. Indeed, he leads us to infer that, when a tooth becomes stained, either by the coloring matter of the blood permeating its dentinal tubes, or from the action of nitrate of silver or any other therapeutic agent, it is a hopeless case, and must be left to its sad fate. The works of Drs. Harris and of Taft also fail to give any explicit treatment for such cases.

For many years I have felt the preëminent value of the natural organs over artificial ones. Acting in accordance with this conviction,

I have strenuously insisted on the preservation of teeth, by filling, that my patients were disposed to sacrifice. The great objection on the part of the patient in regard to discoloration of the front teeth has been that they would not look as well as artificial teeth. It has been my aim to remove such objections by a proper course of treatment.

The attainment of this object has induced me to make many experiments in the hope of discovering the best agents and the most successful methods of treatment. Though I do not claim to have reached the "*ne plus ultra*" of my wishes in this direction, I am frequently treating cases analogous to the one described in the *Dental Cosmos* by Dr. Welch, with much satisfaction to my patients as well as to myself.

To illustrate my treatment I will give a case in point, one of a number treated within the last few weeks:

Miss P., about twenty-five years of age, desired me to examine her teeth, and perform such operations as their preservation required, calling my special attention to two of her front teeth, the superior central and the lateral incisors of the left side. They were very much discolored, and were a source of great mortification. I found them both filled with gold on their proximal surfaces. There were clear indications that, at the time of their being filled, the decay had nearly or quite reached the pulps. The usual arsenical paste had been applied to destroy the pulps or obtund this sensibility. The teeth were then filled. Soon after they assumed a reddish-brown, which changed to a slate color. The pulps, losing their vitality while in a congested state, contained an amount of blood sufficient, when once decomposed and permeating the dentinal tubuli, to cause the discoloration of the crowns of the teeth.

I removed the fillings, and after excavating free openings into the pulp cavities, they were syringed thoroughly with tepid water. The pulp cavities, as in almost all such cases, were filled with a dark-colored and extremely offensive fluid. I then introduced a suitably sized brooch, having the point armed with a small pledget of cotton saturated with the tincture of iodine. This acts as a most efficient deodorizer; and while its application, repeated two or three times within as many minutes, entirely removes the fetid odor, it also acts as a powerful stimulant and local alterative, correcting any morbid condition existing in the periosteum and surrounding tissues.

My next application was a solution of cyanide of potassium. This not only removes the stain of the iodine, but it acts as a solvent of hematine, the coloring material of the blood globules. It also dissolves any remains of albuminous matter contained in that portion of the dentine that has lost its vitality. For some years I used spirits of



ammonia for cleansing and bleaching discolored teeth. In many cases it proved an excellent application. It is by no means equal to the solution of cyanide of potassium, for this not only acts as a solvent of hematine, but of almost all forms of coloring matter present in discolored teeth; not even excepting nitrate of silver or the metallic oxides.

When I cannot at once produce the desired change in the color of the tooth with this application, I have filled the cavity with moistened plaster of Paris, letting it remain from two to five days. I applied the ordinary calcined plaster of Paris in this case with good effect. I finally cleansed and filled the nerve cavities and crowns with gold, and they could scarcely be recognized as the same teeth. I invariably apply creasote to nerve cavities, as well as cavities of decay in teeth that have lost their pulps just previous to introducing the filling. I afterward apply dry cotton or a pellet of spunk, or bibulous paper, to absorb any excess of creasote that may adhere to the parietes of the cavity. I am satisfied that the action of creasote in such cases is not only antiseptic in its nature, resisting the tendency to decay, but it gives translucency and lifelike brilliancy to a tooth. In a recent conversation with Dr. W. W. Allport, of Chicago, I found that his experience in this respect corroborated my own.

In using the solution of cyanide of potassium, great care should be exercised to avoid its coming in contact with the gum, especially any abraded or wounded part of it. To prevent it from being forced through the foramina at the apex of the fangs, it is necessary to fill the nerve cavity permanently with gold, or temporarily with cotton saturated with gum sandarach dissolved in alcohol, or some similar preparation, previous to applying the cyanide. Though I have never seen the least unfavorable symptom from its use in my own practice, yet, as it is one of the most active irritant poisons, the careless or excessive use of which might be attended with the most serious consequences to the patient, I feel the importance of advising caution on the part of the younger and inexperienced members of the profession, especially when I recall the serious effects produced in many cases, by the unguarded use, in years past, of arsenious acid and other corrosive and poisonous agents. A reference to any of the standard works on *materia medica*, describing the properties of this powerful agent, I am sure would be sufficient to deter any one from its improper use.

The solution may be made by adding ten grains of the cyanide to a half fluid dram of pure water; or, to make it more simple—in the absence of a proper measure—to a piece of the cyanide of the size of an ordinary buckshot add half a teaspoonful of water.

As it soon decomposes, and in a great measure loses its bleaching

properties, I prepare it at the time required and throw away what remains after using in each case.

It should be applied on a small pledget of cotton, not more than one or two drops at a time. In no case should it be left in the tooth and the patient permitted to leave. After repeated applications, allowing the cotton to remain in the cavity five or ten minutes, warm water should be injected with considerable force from a syringe.

While acids and chloride of soda weaken and destroy the texture of the tooth, this solution possesses superior bleaching power, producing its effect in most cases immediately, without injury to the dentine. Let no one for a moment suppose that the final result can prove satisfactory without the proper use of the excavator, with proper care and skill of manipulation in the subsequent operation of filling with gold.

I will only add that I have found the above treatment to prove highly satisfactory in a large number of cases in my own practice, and I offer it to my professional brethren, hoping that, if it should not fully meet their expectations in all cases, they will at least be prompted to such investigations and course of treatment as may lead to more satisfactory results.

Philadelphia, July 27, 1861.

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#### TO BEGINNERS.

Do not for a moment think because you have just graduated and are ready to serve mankind, that the world is ready to welcome you with open arms and mouths. No, the probabilities are that both will remain closed for a very provokingly long time after you locate, but remember that success awaits any faithful worker. Many beginners are driven from the profession utterly discouraged, while others, with no better outlook, have stood bravely at their posts and have gradually won a place and a comfortable income.

Habits are our masters. Many say it is nobody's business what their habits are—outside of the dental office. It is somebody's business, and that "somebody" may choose to stay away or transfer his patronage to another, simply because the habits of a dentist were objectionable.

Attend strictly to business, cultivate habits of sobriety, study and close application to whatever you have in hand. Always do your best. Be courteous and gentlemanly. Politeness is better than a column advertisement, and don't cost so much. We are all mortal, and there is no one, perhaps, who cannot improve materially on some one point concerning himself.

Study self, but do not let it be a selfish study. Let judgment and integrity be masters and you will win your measure of success.—*Practical Dentist.*

## SAVING TEETH.

DR. W. G. A. BONWILL, PHILADELPHIA,

In N. Y. Odontological Society.

In an article read before my own society in Philadelphia, in May, 1881, I presented the following points: The Salvation of the Human Teeth. How shall it be done? Adaptability vs. Compatibility. Success and Failures.

At great length I gave my reasons why incompatibility was not a factor in saving teeth. My creed then was what I have found satisfactory up to this date,—that the predisposing cause of caries is principally due to the physical law of capillary action, where two adjoining proximating surfaces are in such contact as to form a capillary tube of the surfaces of the walls; that caries attacks first the finest part of that tube or the surfaces *near* the point of contact; that the point of contact is never first involved; that the active agent is starch or its products, and then chemical decomposition acting chiefly on lime-salts, as well as acids of various kinds acting immediately thereon; that decay can be anticipated by timely action and judicious treatment in many cases, and, if not arrested early, will surely destroy the tooth-substance of seven-eighths of the children of the present generation, and filling will have to be the sequel; that decay once commenced, it is of no consequence whether the filling be of compatible or incompatible materials, it will not be corrected unless this same law of capillary force is observed and the proximal surfaces of the fillings and teeth are modeled as I model them in anticipation; that gold *per se* will protect dentos from future attacks of caries if placed in teeth which are so adapted by situation, size of decay, and general surroundings as to enable an expert in its use to have access to the cavity, and if the physical law laid down is observed, otherwise it will fail; that amalgam and other plastic fillings will save dentos from further decay only on the same physical law and their better adaptability to the situation; that the theory of incompatibility to dentos and consequent galvanic action in proportion as they are incompatible has nothing whatever to do as a factor in permitting caries to again commence after teeth have been filled, any more than it was the first exciting cause of caries in solid dentos; that adaptability of dentos to material and material to dentos, skilled hands, a brain equal to the task, and the final observance of the law of capillary force, will on common physical principles, well understood and capable of demonstration, save more teeth than by acting on the law of incompatibility; that *no theory or law*, however positive or well understood, can be successfully applied so long as we have in our ranks men who are neither compatible nor adaptable to their positions; that, in connection with well-grounded principles of

practice, we must have men who are skilled artisans, and who know how to use their digits, with a dental training first as a *sine qua non*, and finally with a medical education, so far as the general principles of surgery are concerned, the more the better; with such men, going out from our schools we can hope to keep in check, if not to annihilate, this monster caries.

To all this we may add that, unless dentistry is practiced as a noble profession, and not as a trade, we cannot expect to rise in the world's estimation, but will continue to fail, and be set down as mere money-makers, and unworthy of our exalted calling.

This creed I am sure all will admit is reasonable and practicable.

Conscience, ability, and experience must tell in this fight to suppress caries. It is well to listen to the wranglers who are ever debating theories of micro-organisms or chemical action as the active agents; but let us keep our wits, and observation will point the way if we have eyes to recognize facts, which I believe are simple. Talk of antiseptic remedies! My great sustainer is dynamic antiseptics. I feel that thirty-three years of my own practice have taught me something, and that my own failures as well as those of others have been equally potent in showing me the way.

To give you a reliable reply to why I use so much amalgam, and not so much gold, I must tell you where I believe I have failed in the prevention or recurrence of caries. It is not necessary for me to go into an elaborate scientific disquisition on the metals composing amalgams, —how proportioned; how to insure against changes; the laws of spheroidal bodies; the escape of mercury when once in the mouth, and all the minutia of the metallurgist; these you will find in text-books and magazines. Suffice it for me to feel that I have reached a surer and more steadfast footing in the use of all the materials we are now employing for filling decayed teeth. Enough for me to impress on you that we must rely on one another's experience; that we are now so far advanced in technical knowledge that, when one makes an assertion backed by a long line of practical results, *it must be accepted*.

Ten years' additional experience since this was written finds me with no desire to change a word of it, unless to make it stronger in favor of contour filling as a general rule of practice. In fact, if I look back on my experience in cutting and filing teeth as on a period that I could wish blotted out, I can truly say I look forward to such work as may be left me to do with a feeling of satisfaction in knowing that hereafter I shall be working with nature and not against her. You all know the old saying that "he who works with nature works well, and he who works against her works ill."

If further proof of the correctness of my position is needed, I

could name for you a long list of men whose practice is that of restoration of the shapes of the teeth, and by common consent they are the most eminent men our profession has produced. Many of them have been so fortunate—perhaps I had better say so level-headed—as never to have made spaces between the teeth, and their work stands an unconscious comfort to their patients and a lasting credit to themselves. I think it is safe to say that Dr. R. W. Varney reached high-water mark in the art of filling teeth. No one who came before, and no one, to my knowledge, who came after, excelled him in saving teeth. I have seen a great deal of his work (much of it now of twenty years' standing), and I have never seen or heard of a filling of his that was not contoured. He said to me once that his ambition was, if cut short in his work at any moment, the last filling he put in should be his best—the one he would be content to be judged by.

We shall never make progress unless we keep ideals before the mind. Who is there who will say that ideals are followed when, with a file or chisel, a slash is made between the teeth, destroying that which nature has designed so well! When we do these things we come to our work with no reverence for that which is perfect,—with no feeling that the true artist has who, knowing his limitations, can have no higher ambition than to reproduce nature. If you say science has nothing to do with ideals, then I answer, our work is not strictly scientific; it is art work, for dentistry is one of the finest of the fine arts, and art work is never anything if it is not idealized. I would not have you infer from this that I would favor making a treasure-house of art of the mouth of a patient. The dentist who makes his work to show, loses sight of his true calling. There are practical considerations that outweigh all else.

It seems to me the highest point an operator can reach is to make beautiful gold fillings, and be content if they are out of sight and never seen and admired by any eye but his own. At the same time, I am ready to commend the man who, under certain conditions, has the courage to use inferior materials, such as oxyphosphate on grinding surfaces, gutta-percha on sheltered proximal, and amalgam for restorations of large cavities in frail back teeth. It may not be possible to do artistic work with such materials, but it is possible to preserve the shapes of the teeth, and by this means do saving work with them.

In actual practice it may seem difficult at first sight to combine the ideal and the practical. I think it will be found true, however, that, whatever material is used, a better practical result will be secured if we keep to the ideal shape of the tooth. And if one has the artist's love of form and outline, and keeps the ideal tooth in mind, his work may be a never-ending source of pleasure.—*Cosmos*.

REMOVING REDUNDANT MERCURY IN PACKING AMALGAM; CONTOUR;  
THE MATRIX.

DR. WM. B. MILLER, ALTOONA, PA.

*Editor Items.*—Since reading the paper of Dr. W. G. A. Bonwill of Philadelphia, read at the last meeting of "New York Odontological Society," on removing redundant mercury by bibulous paper, I have given his method of introducing amalgam a fair and impartial trial, and am pleased to state from my limited experience that it has proven by far the most satisfactory of any method heretofore in use; the amalgam is more rapidly consolidated, the adaptation to all undercuts and irregularities is certainly more perfect, the free or excess of mercury is, to a greater degree, forced to the surface and removed, and the filling when completed more compact.

In reference to contour operations I must take issue with Dr. Bonwill on one point, viz.: referring to the use of a matrix, he says: "true contour is not so possible, and you take extra risk of dislodging the alloy in removing the matrix." This may, and no doubt is true, unless one is in possession of a matrix which is readily adapted to the original, or natural conformation of the tooth to be operated on, and has at hand a variety of sizes and widths to suit each case.

I have known Dr. Bonwill personally "these many years," and admire (not flatter) him for his untiring efforts to elevate the standard of dental practice; for his genius and inventive ability, and his readiness to impart knowledge gained by labor, thought and expenditure of means to others. Yet I must say from experience, I believe better operations can be performed by *many* with the aid of a *suitable matrix* than is possible without it, and that in the majority of cases, "true contour" *is possible*. The liability to destroy, or of dislodging portions of the filling is materially lessened, when compared with his method of "bridging the chasm" and the final and necessarily tedious operation of "scratching, and dividing the fillings to make each tooth distinct." I fill many teeth, and take especial pride in contour operation, and my experience is *not* that "great care must be exerted or the contour will be broken, when an extremely thin matrix of proper construction and adaptability is used."

Again, Dr. Bonwill says: "Besides, it is not so practicable to have a matrix that will cover all these spaces from the cuspid to the first molar." On this point we also take issue, and assure the Doctor that we have found it quite practicable to cover all these spaces, and will go beyond this, by taking in the second molar, the matrix by which such operations are made practicable is an entirely new and original devise with us, and has not yet been brought to the light of the profession,

but as soon as satisfactory arrangements are made to do so, we shall be pleased to furnish our friend with a sufficient number to satisfy him by experience that the foregoing issues are based on facts. Dr. Bonwill's ability as an operator of rare merit is well known, and no one will question his skill to do all and more than he claims. With these kindly criticisms, I would recommend that Dr. Bonwill's very able production be read and re-read, till one is thoroughly familiar with the ideas therein advanced. We have no doubt, the profession generally will profit by his teachings.

### THE GOOD OF ASSOCIATION.

DR. WM. H. ATKINSON.

The desire that springs spontaneously in the heart for association is dried and killed out the moment we begin to calculate what it will cost. Be assured, the greatest lack of the profession, after breadth, is want of earnest, frequent communion; and the time has come when we cannot afford, even in a pecuniary sense, to ignore association.

For, as where the most fuel is, the fire is the hottest, so where the atmosphere is redolent of truths and facts, principles and methods, the most rapid and least expensive advancement will be. Then let us come together in the spirit of true fraternity, and fill, one after another, our lacks, that we may finally stand disenthralled and fully enfranchised with all that constitutes the truly professional Christian gentleman.

Had we one single leader that filled this measure, and devoted himself to the elevation of our standard, regarding that work as a mission committed to him that he dared not neglect, more would be done to advance the profession in the next half decade than has been done in all the past. This may seem like hyperbole to some, but it is sober truth, and will be demonstrated to the most obtuse when the conditions are fulfilled.

Who, among us all, that has tasted the sapid contact of open, free fraternal association in our conventions and more regular gatherings, but has resolved at the time, to make it a point to be more prompt in their support in the future? But alas! "like the sow that was washed," we too often drop into the old mire of isolation on our return to our fields of daily labor.

I do not say *all* who ever enjoyed contact in our gatherings thus resolve; but I do say, all who are *alive*, and worthy to enjoy such opportunity repeated, do make, honestly, just such a resolve. Circumstances may control us for a time; but if we are in real professional, Christian, or human earnest, we will make circumstances in turn come under our control, and minister to our joy and profit every way.

Here, as elsewhere, he who is solicitous "to save his life" (time and money), "shall lose it;" while he who is willing to trust God or noble humanity, even if he should lose part of his time, money, or life, will the more certainly "find it."

Having freely received of the arduous labors of others, it is imperative that we as freely give (not sell) to others of our labors.

Lack of ability or willingness to communicate what we know, is a heavy incubus on the profession. I often *feel* that an earnest spilling over of our best and choicest items is but too nearly allied to casting pearls before swine; yet one advantage it always possesses: *i.e.*, the disposition and ability to communicate are both increased by the practice, even at the hazard named. Lack of habit of communicating, or want of "keeping the hand in," is also a fruitful source of failure in otherwise competent and efficient workers.

If we have new cases in abundance, we need not recapitulate in the laboratory the cases of our pupilage and daily toil; for in those new cases we have the double stimulus of *doing* good to *others*, as well as receiving good. In like manner we should review our studies, textbooks and old journals, in the lack of new matters, on which to appease our mental appetites. It is, depend on it, a possible thing to forget; the hand may forget its cunning, and the heart may forget its interest in the multifarious exercises of life; hence the necessity of a survey to show us certainly where we stand now, that we may be stimulated to proper excellence in the work of "head, heart and hand."

It was once queried, "Thou that teachest a man should not steal, dost thou steal?" We all acknowledge the rectitude of principles; let us see to it that we also respect the rectitude of correct practices, by coming out of our puerility and self-hood in these, as fast as we may. Earnest preparation, close examination, faithful execution—cleansing and purifying ourselves by severe recapitulation at each period, repeated throughout our career, will insure proximate completeness to every one honestly exercised thereby.—*Cosmos*.

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**Does Amalgam Shrink?** An amalgam may be so constructed as to shrink, but I think these are few. To test the general assertion that amalgam shrinks, I placed a line or ridge of freshly mixt amalgam, about two inches in length, between two fixt points. Twelve hours afterward the middle was found to be raised, and the two ends still pressing closely against the two fixt points, thus showing expansion instead of shrinkage. This, indeed, is what I might have expected from a consideration of the well known fact, that most bodies expand in the act of crystallization.

J. S. LATIMER.



## INFLAMMATION OF THE PULP.

PROF. L. C. INGERSOLL.

Exposure of the dentine causes an irritation of the dentine fibrils, indicated by an uncomfortable sensation in the use of cold and warm drinks, and pressure in mastication.

*Treatment.*—If irritation has been but for a day or two, immediate filling will give relief. Do not use carbolic acid or other caustic—only a mild antiseptic.

2nd. If the irritation continues, it extends through the fibrils to the pulp before any actual exposure of the pulp has occurred. Then, from the same causes, the uncomfortable sensation has become *pain*.

*Treatment.*—Avoid caustics; use oil of cloves, phenol sodique, creasote, or other stimulating antiseptic, and fill immediately with gutta-percha or other good temporary filling. It may in a few days be permanently filled.

3rd. If irritation has been continued so long that cold and warm drinks or mastication cause a pain that *continues* for ten, fifteen, or thirty minutes, the pulp is seriously involved, and the final result becomes doubtful. Generally, antiseptic and sedative treatment, followed by astringent and tonic medicines, will restore the pulp to its normal condition, when, by temporary then permanent filling, or permanent capping and filling, the tooth may be saved from further trouble. Often *failure* is the result.

4th. When the pulp has become really *exposed*, having no dentine-covering, a portion of its surface, or if the dentine fibrils have suppurated and the tubules of overlying dentine are empty, such porous dentine is equivalent to an exposure of the pulp. Under such circumstances it is subject to paroxysmal pains, and steady yet intermittent pains. If the pulp has become involved by this slow process, causing pain at intervals for weeks, there is more certainty in extirpation than in any attempts to save it.

Extirpation means devitalization and *complete riddance* of every vestige of pulp tissue, from the opening of the pulp chamber to the apical foramen. Devitalization is accomplished by the use of arsenic,—the pulverized crystals. It will cause less pain if the acute inflammation of the pulp is first reduced.

First, fully expose the pulp and locate the exposure, so that the arsenic can be applied directly on the surface; take a ball of cotton not larger than a pin's head, moisten it with creasote and touch it to the powdered arsenic; if the cotton ball is no larger than indicated, it will take up no more arsenic than is needed. This should be carefully carried to the point of exposure, and gently pressed on the pulp, and while the cavity is still dry, the medicament should be

protected thoroughly by cotton and gum shellac, sufficient only to well fill and protect the cavity; other temporary stopping may be used. This may remain for from twenty-four to forty-eight hours, and if the stopping does not loosen, and it is a case from which, because of the pain of excavating, the pulp was not completely exposed, the arsenic *may remain for a week*. After its removal, and before the cavity becomes filled with saliva, apply *dialysed iron* to neutralize the arsenic and secure the surrounding tissues against harm.

Removal of the tissue is by mechanical and chemical means. It is better to wait for a day or two and till the dead tissues become emptied of its watery portion, and its fibrillous attachments to the dentine become broken by partial disorganization of tissue. From the straight round roots it may then be removed in a body. From the flat roots of the molars this is impossible, and decomposition is the only *sure* method of removal. If in the lower molars, *lacto-pepsin* may be employed as a digester of the fragments of pulp tissue remaining in the roots; also the bicarbonate of soda if carefully applied. After having done all, there is no *certain* removal of dead tissue from all the molar roots, except by the natural process of decomposition, and no perfectly *safe closure* of the apical foramen, till nature closes it by a deposit of cement.

#### CONGESTION OF THE PULP.

*Treatment.*—If the throbbing pain of congestion has been experienced, extirpate at once. If quieted for a season, there is the highest probability that after the best of treatment and capping, within six to eighteen months the pulp will be found dead or needing devitalization. It should be remembered, there is no organ of the body that has such a feeble hold on life as dental pulp, even its *vital tendencies* are toward obliteration.

#### PAIN AFTER FILLING.

*Causes.*—1st. The nerve fibrils may have been in such a state of irritation when the filling was inserted that they developed an inflammation in the pulp.

2d. The cavity of decay may have extended so near to the pulp that a metal filling would conduct thermal changes and produce pulp inflammation.

3d. The cavity may have been free from sensation when filled, and apparently have firm walls though the pulp was in a suppurative condition.

4th. If the tooth pulp died a spontaneous death it might have been free from pain so long as the cavity was open; but when filled the diseased condition of the alveolo-dental membrane became manifest.

5th. If the pulp was devitalized by artificial means, it is more

than probable there were left in the root canals, portions of dead pulp tissue which, within six months or a year, would decompose.

### JUMPING TOOTHACHE.

*Causes.*—A dying pulp, confined without vent; a suppurating pulp, half dead and half alive. Sudden decompositions and powerful expansion of gases in the closed chamber of the dental pulp cause intense pressure on the living portion of the pulp. Instances are known of pressure of confined gas within a tooth being so great as to part the tooth asunder with an explosive sound.

*Treatment.*—An opening must speedily be made into the pulp chamber to allow of the escape of confined decomposing elements.

Forcing the dead pulp against living and inflamed tissue about the foraminal entrance sometimes causes pain.

An inflammation of the cement from irritating acids formed by the decomposition of filth, often a *febrile sordes* lodged there will sometimes cause pain about the necks of teeth.

*Treatment.*—A thorough cleaning and the application of *phenol sodique*, dilute carbolic acid and soda combined, and, if the tooth, remains very sensitive, use chloride of zinc, 10 grains to the fluid ounce of water, or the liquid of the oxychloride filling material.—*Dental Science.*

**Filling with Gutta-Percha.**—Serrated points should be used for packing the gutta-percha, much like the large instruments used some years ago for condensing gold fillings. The practice so common with many operators of passing the stopping into or over the direct flame of the lamp is to be deprecated, for it does not get uniformly heated in this way, the outside being over-heated while the center is sometimes hardly warm. It should be heated over hot water. Just as much care is required in filling with gutta-percha as with gold. The rubber-dam should be adjusted to exclude any possibility of moisture, and the cavity carefully prepared or treated. Small bits of the stopping, after being properly heated, should be packed piece by piece with as much care as though using gold.

Many dentists regard gutta-percha stoppings as mere temporary fillings, yet consider gold as permanent. What proportion of cases are to be seen where gold fillings, after having been in the mouth three, five, or eight years, are not in such a condition that the point or edge of a burnisher could not be introduced around the margins. And when such fillings are removed, much tooth structure must be sacrificed before other fillings can be put in; so gutta-percha fillings, though they may wear away somewhat, or "cup out," preserve the integrity of the tooth structure and can easily be replaced. These, then, should be considered "permanent."

J. FOSTER FLAGG.

## NEURALGIA—TRUE AND FALSE.

PROF. L. C. INGERSOLL.

Neuralgia is a diseased condition of the nerve tissue.

Etiology.—General debility, malarial influences, great care and anxiety of mind, over-work, either mental or physical.

[Such patients should be sent to the family physician.]

False neuralgia is *reflex* and *sympathetic pains*.

By *reflex* pain we mean that which originates in one locality, the sensation passing back to a nerve center, and from there reflected along the line of other nerves centering in the same ganglion.

*Sympathetic* pain is that which is experienced in an organ *remote* from the local cause, but having through the *great sympathetic nerve*, intimate nerve connection.

*Facial neuralgia* is that affecting the FIFTH PAIR of nerves.

The pain is wandering, creeping, boring, lancinating, shooting, quivering, tearing, rending, gnawing. These are characteristics more specially of true neuralgia.

There is a disorder which may be defined as bicuspid pain. This is felt in the lower bicuspid teeth from a cause in other teeth, remote; either lower or upper. It is therefore neuralgia of the second class.

The etiology of this trouble is as follows:

Whenever the inferior dental nerve becomes the medium of reflected pain from any of the teeth above or below, or from any of the numerous filaments of the mental nerve distributed to the chin and lower lip, the vascular lining of the inferior dental groove becomes excited and thickened, so that at the mental foramen, located near the points of the roots of the bicuspid teeth, the nerve is constricted and pain is excited at the very point of passage through the foramen, which is referred to the *bicuspid* teeth as the cause, though they may be entirely free from disease.

If no local cause appears, we refer general treatment to a physician. If, from a local cause in the dental organs, whether the neuralgia is either *true or false*; treat first the cause, then use heat and irritating local anesthetics, equal parts of *alcohol*, *chloroform* and *tinct. of aconite*; equal parts of *tinct. of capsicum* and *wine of opium*, applied by moistening a ball of cotton and passing it lightly over the face, along the track of pain. If bound as a compress on the face, it is liable to vesicate, especially the former preparation.—*Dental Siccinc.*

**The Brooklyn Medical Journal** is a monthly of good promise. Its sixty-two pages are used in bringing to the medical profession a well digested group of practical thoughts. \$2.00 Direct 214 Madison Avenue, Brooklyn, N. Y.

## SIMPLIFID SPELING.

DR. WELCH—ITEMS for Feb. resērvd, and I hav to sa: I wish al our books and paperz wer printed in simplifid speling. Before the wor I took a paper devoted to fonetics—*The tip top ov the times*—and ever sins, I hav faverd the sistem.

I woz for yērs a tēcher; and I am wel aware ov the trubl, laber, and vexashunz ov “ofishal” speling, and I wod gladly se a chanj for the beter. The prezent foolish wa ov speling iz a humiliating disgrās, an urksun burden, and a burlex on our intelejens. The printer of Japanēz haz to bring into line 8000 characterz to suit hiz rēder’s taste; to plēz our rēderz, the printer haz to jumbl up into al maner ov inconsistent, arbitrary and diffecult forms 26 letterz. The Japanēz ar characterz significant, ourz ar not.

Miffln, Tenn.

J. W. SPARKMAN.

## EDITORIAL REMARKS.

To things are in the wa ov speling reform:

1st. A want of uniformity in method. Ov cors, this cannot be helpt. It only shoz pepl ar thinking independently; gradually thar thots wil cristaliz. Our preferens iz for ful fonetics, and even a chanj ov leterz to fonografic characterz; but we do not belev it wod do eny good to atempt such radical chanjez now. Few cod step so far. We must first make the best use ov the leterz we hav. It wil take us sum time to educate pepl up to this; and this wil be doing much—it wil be a wunderful improvment; and when this long step is takn by the masez, thar wil never be a bacsliding to the old sistem—al wil be redy to step forward into pure fonetics.

2d. The want ov boldnes and activity on the part ov thoz who ar convinst ov its dezirability and practicability. For instans: U hav bin convinst for yers ov both, and yet, what hav u dun? Ov cors, sumthing; but if u and I, and other frendz, had dun al we cud, we shud now se grand results. We ar al wating for sum grat leder, or sum mity movment abuv and beyond ourselvz; or til, by sum misterius menz it iz about to becum popular, then we wil do valient servis. But that iz not the wa reformz ar brot about. It iz dun by the persistent, tho perhaps silent, and ma be unconshus, influens ov a few individualz in the umbl wäks ov life. Ech wun lifts; but O, how litl it seemz at best; and yet to the mezure ov hiz strenth. But hiz fath is greater than his muslz. Enthuziasm adz numberz, and numberz ad strenth, til, az al finaly lift by muscl and by fath, the mountin iz cast into the se.

U rite to me this modest leter; perhaps it iz the first u hav ritn in simplifid speling in a yer. If we do not think enuf ov it to uz it in our corispondens, and to recomend it ofn and in al waz posibl, how can we expect otherz to be stimulated? It iz tru, u are only wun among a thouzand—so ar we—so ar the few that ar scaterd here and thar, who hav thar iz open to se grat posibilitiz. But thar iz a wide aplicashun in the Scripture promis that “Wun shal chase a thouzand, and tō put ten thouzand, to flit.” It iz not by folding the handz, and looking for the Lord to do al; it iz by the few inspird, curajus, irresistabl wunz doing herculian work. God mitily helps thoz hō help themselvz. It iz “the sord of the Lord and ov Gideon.” If wun in a thouzand wer az leven, in this reform, tha wod soon leven the hole lump. But leven iz very activ, insinuating, agresiv.

## EXPERIMENTS IN IMPLANTING TEETH.

If, as many eminent physicians assert, the dietary and habits of Americans are rapidly causing widespread dental degeneracy, the recent successful experiments in implanting teeth are of national importance. Dr. Youger, of San Francisco, has demonstrated that it is practicable to replace lost teeth, even after the socket has been filled with bony substance. He simply drills into the jaw, gouges out a new socket, and then, taking a foreign tooth though long been extracted, cleans it thoroughly, soaks it in bichloride of mercury and inserts it in the socket thus artificially formed.

Describing this marvelous process in its issue of the 23d inst., *Science* states that Dr. W. M. Gray, the microscopist of the United State's Surgeon General's office, has examined a tooth which had been implanted by Dr. Youger's method and then extracted. Dr. Gray's microscopical examination shows beyond question that the tooth so implanted is actually revived, that circulation is established between the socket and the implanted tooth, and that the socket takes an active part in anchoring the tooth. Dr. G. M. Curtis, of Syracuse, N. Y., has successfully repeated Dr. Youger's experiment, and found that a tooth which he had implanted was so firmly anchored that it broke when he was extracting it.

The value of these experiments to afflicted humanity can hardly be overrated. Dentists who learn to implant teeth will be almost as great benefactors of the race as the discoverers of modern anesthetics. As good teeth are indispensable to healthy digestion and nutrition of the body, the discovery of means for replacing them when lost is about as near an approach as we can ever expect to the discovery of the fabled fountain of perpetual youth.—*N. Y. Herald*.

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THE life of both Alvan Clark and Spencer F. Baird, emphasize the fact that there is abundant opportunity for men of middle life, even in new fields of effort. We often hear *young men* urged to make the most of their opportunities; but when a man has passed the forties, we take it for granted that there is little for him to do but to keep on in the beaten track he has already entered. There could scarcely be a greater mistake. No man should have reached the summit of his life till he is well passed twoscore years. Alvan Clark never thought of making an object-glass till he was past forty, and had a son in college. Spencer F. Baird did the great work of his life, as President of the United States Fish Commission, after he was forty-eight, and he was fifty-five before he became Secretary of the Smithsonian Institute. There is no "dead line" of inactivity, except for those who draw it for themselves.

## TOBACCO.

DR. JOHN C. WARREN.

Tobacco is by some persons recommended as beneficial to the teeth; but while it can have no material effect in preserving the bony substance of the teeth, it has a real influence on their vitality by impairing the healthy action of the gums. These, and also the adjacent parts, are very subject to cancer, particularly the tongue and lips. For more than thirty years I have been in the habit of inquiring of patients who came to me with cancers of these parts, whether they used tobacco; and, if so, whether by chewing or smoking. If they have sometimes answered in the negative as to the first question, I can truly say that, to the best of my knowledge and belief, such cases are exceptions to the general rule. When, as is usually the case, one side of the tongue is affected with ulcerated cancer, it arises from the habitual retention of the tobacco in contact with this part. The irritation from a cigar, or even from a tobacco-pipe, frequently precedes cancer of the lip. The lower lip is more commonly affected by cancer than the upper, in consequence of the irritation produced on this part by acrid substances from the mouth. What is more likely to cause a morbid irritation, terminating in disease, than the frequent application of tobacco juice?

Aged persons are very liable to cancer, especially about the face; and when an irritating substance is applied habitually, the skin becomes disordered and takes on a cancerous action. This irritation may be produced by the use of tobacco in the interior of the mouth, by the habitual application of a cigar to the lips, and even by a pipe applied to the same parts. Few days pass without my having an opportunity of witnessing the verification of these facts.

**Irregularities.**—Dr. Morrison's method consists essentially in assisting nature. He takes the ground, and has practiced on the theory for many years, that irregularities should be prevented; that the deciduous teeth should be kept in position or allowed to remain till pushed out by their successors. This is illustrated by a case of a little patient, five years old, sent by a physician, with a request to extract certain teeth. Four premolars were badly decayed, with dead pulps; the anterior teeth were also decayed. The teeth were filled and kept in place till their successors erupted, without irregularity, which would certainly have existed had the temporary teeth been extracted at the same time he first saw the child. Another case is of irregularity treated for a patient fourteen years old. This was treated with jack-screws and platina bands, which were first applied to the upper jaw, then to the lower. The irregularity in the lower teeth was corrected in three weeks; treatment of the upper teeth was not yet completed. In

another case the left superior lateral closed within the inferior. By adjusting a jack-screw to a molar and bicuspid of the opposite side of the jaw, and a platina band to the lateral, the difficulty was corrected in eight days.

In the case of an unerupted right upper cuspid he found a space between the lateral and first bicuspid of one-sixteenth of an inch, and just above it the point of the cuspid. He enlarged the upper arch, and when sufficient room had been made, using cocaine to deaden sensation, he bored from the outside of the jaw, and attempted to bring the cuspid down; but, instead of coming down, as he expected, it would go right up into the jaw. He then extracted it, and found it had a crooked root with a decided hook at the end. This was cut off, and a crooked socket bored and the tooth replanted and fastened in place. It was a complete success.

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**Æ and œ.**—Those who know the whole history of spelling, from the eighth century to the present, best understand the harm done by the pernicious system of trying to transplant Latin and Greek symbols. Æ and œ should be avoided. Indeed, this is done in practice when once a word becomes common. Æther and œthereal have been sensibly replaced by ether and ethereal. No one now writes œternal. Solœcism is now solecism, and I trust primeval and mediæval will soon prevail over primœval and mediœval. Pedantic spellings are most objectionable, because useless and unphonetic.—Prof. SKEAT in *Notes and Queries*.

We heartily agree with Prof. Skeat, and trust that diarrhœa, leucorrhœa, dysmenorrhœa, etc., will soon give place to diarrhea, leucorrhea, dysmenorrhea, etc.—*British Medical Journal*.

We presume few have noticed that for the last year or so we have omitted æ and œ from all words in the ITEMS. This shows how easily and acceptably many changes in our present absurd orthography could be made.—ED. ITEMS.

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**Removing Temporary Teeth.**—In January ITEMS this sentence occurs in an article by Dr. Morrison. "The deciduous teeth should be allowed to remain till pushed out by nature." This expression is too broad and cannot be applied to every case. I have seen some of the worst irregularities evidently caused by allowing the deciduous teeth to remain too long. I have now several cases where the cuspids are pushed out of line, and others where all the front teeth are displaced and both the temporary and permanent teeth are in the mouth at once. Therefore I would put it thus: The deciduous teeth should be allowed to remain till the indications warrant their removal.

Brooklyn, N. Y.

EDWARD T. MASON.



## ELECTRICITY IN EXTRACTING.

I am glad to see you give space in your March ITEMS to a communication of Dr. C. R. Taylor, entitled *Electricity in Extracting*; for if there ever was a humbug, it is that same C. A. Eisenhart and his battery; it is worse than worthless, and while he pretends to sell his apparatus on a guarantee, he is always certain to get his money in advance, and that is the end of it so far as his victim is concerned.

Being anxious to secure any and everything that would make dental operations more tolerable for my patients, and seeing his ad. in your journal, I bought one of his machines, but the money might just as well have been thrown away; and worse, for in recommending it to my patients I innocently deceived them, and thus to a certain extent impaired my reputation with them. While your ITEMS has been the innocent cause of deceiving your patrons and their patients through his ads., I am glad to see you honorable enough to rectify the harm done by giving space to such communications as Dr. Taylor's. I have several interesting cases in practice which I will report to you at some future time. Wishing you and the ITEMS every success, I remain, yours for truth.

T. C. SMITH, M. D.

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**The Patent on Gold Crowns.**—The following is quoted from a recent letter from Dr. S. J. Barber, of Portland, Oregon: "If it's of any moment I can tell you, or anybody else, where Dr. C. M. Richmond got his ideas of the way to make gold crowns. While he was in practice in San Francisco I called on him, and he handed me, while in his operating-room, a crown for a bicuspid. Knowing that Dr. Beers, of the same city, claimed to hold a patent on gold crowns, I made the inquiry if he would not cause him trouble, when Richmond fished out an old "Cosmos" and showed me an article accurately describing the mode of making crowns of gold as he, Richmond, practiced it; the date of the article he claimed was far back of the date of the Beers patent. Richmond showed me how he worked his gold and suggested that it was worth my while to try it, remarking that there was absolutely no chance for anyone to claim a patent, as the article mentioned was a bar to any application therefor, and acting on his suggestion I did make and adjust two crowns, which are being worn now."—*Dental Review*.

In our June ITEMS will appear evidence that seems to us entirely conclusive of the use of Gold Crown and Bridge Work, long prior to any claims of the present patentees.—ED. ITEMS.

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"No man who chews tobacco can expect to rate high in the estimation of others."

**Post Graduating Class.**—DR. T. B. WELCH; Why can't we have a course of lectures and study for old dentists who want to review, something perhaps, after the medical profession have—a Post Graduate Course? I have been a reputable practitioner for over twenty years, and see many ways in which I might be benefitted by such a course, which I and many others would improve.

Saginaw, Mich.

G. H. HALE.

ED. ITEMS:—A second superior bicuspid was implanted for me by Dr. Yonger, September 1, 1887. After becoming tight and comfortable it has been doing good service; but for two or three months I have noticed a tender place opposite the root, where there is swelling of the gum and cheek. A month or so since a small fistula formed through gum opposite the tooth, from which there is occasional discharge of small quantities of bloody matter. I have so far been unable to pass a syringe point or probe to any depth, or get rid of the disease. I would like suggestions from implantists of the ITEMS.

Christianburg, Va.

D. D. LESTER.

**Freezing the Pulp.**—EDITOR ITEMS.—A young lady says that some time since she was out coasting one night, the temperature being about thirty-five below 0°. In a few days the four upper incisors caused considerable pain, and finally became badly discolored. She presented herself to a prominent dentist of this city for treatment, who told her the nerves had been frozen. Is this possible? Please let this appear in your next issue.

St. Paul, Minn.

SUBSCRIBER.

**For after pains** in extracting wisdom teeth, I use deep injections of chloroform, a second application being unnecessary, as the pain ceases after the lapse of a few moments. The subject demands more consideration from the profession than hitherto given it, and I would be pleased to hear the verdict of anyone on this treatment who may test it.

L. C. ANDERSON.

Lake Charles, Louisiana.

Saccharine has at last become an article of commerce. This substance is so intensely sweet that if it is tasted in its pure state the delicacy of its flavor is obscured, as it produces so acute an action on the nerves of taste that it deadens their sensibility. It is when it is properly diluted, that its sweetening power is fully brought out. According to Prof. Stutzer, of Bonn, its presence by taste can be detected when one part by weight is dissolved in 70,000 parts by weight of pure distilled water. It has marked antiseptic powers, and absolutely non-fermenting.—*Dental Record*, Eng.

**Kerosene for the Vulcanizer.**—The last moment before closing the vulcanizer I carefully wipe both threads with a soft rag, well saturated in kerosene. I then screw the top on as tightly as I can. This simple method serves the double purpose of closing the boiler steam tight, and opening easily when desired, besides preventing wear and tear of the threads.

**Cold Feet in Bed.**—Instead of hot flat-iron or bricks try a stone or earthen quart bottle filled with *boiling* hot water, well wrapt in flannels. An old stone jug, such as Arnold's writing fluid or Carter's ink comes in, is best. This retains the heat all night, and keeps the feet nicely warm in the cold morning, when most needed. It also avoids the danger of getting too hot and burning the bedding.

“FAR WESTERN.”

**Finding Part of a Lost Tooth.**—Mr. Randolph, living in Topeka, Kansas, while in this city found a part of a lost tooth under peculiar circumstances. He had all the teeth in his upper jaw extracted. Shortly after he began to suffer, as he thought, from catarrh; so he commenced treatment under a physician. After a time, getting no better, he went to a dentist, who, on examination, found a piece of a root of the left second molar. Turning away for a moment and then re-examining, he could not find it. He enlarged the opening into the antrum and instituted treatment with phenol. This was kept up for several months, till one day, while blowing his nose, he caught what was evidently the same piece of the root in his handkerchief.

J. C. KING, Dallas, Texas.

**EDITOR ITEMS:**—I have been a subscriber to your journal nearly ever since its introduction to the profession, and can truthfully say the longer I take it the better I am pleased with it. I never receive a copy but that I am both instructed and amused. I find, however, that many of your correspondents ride large sized hobbies; for instance, about a year and a half ago, I think some one in writing of exostosis, attributed the disease to the presence of amalgam fillings, and as I am in the habit of investigating all these things, I kept a record for nearly a year, and of more than forty teeth extracted, which were exostosed, but one of them had an amalgam filling in it, while eight were, or had been, filled with gold, and the others had never been filled. I extracted seven from one mouth, all exostosed, and there never had been an amalgam filling in the mouth; two of these were filled with gold, five had never been filled.

**Amalgam.**—Dr. BROCKWAY says: There are amalgams and amalgams. A good amalgam properly used is, I believe, as reliable a filling material for a large proportion of difficult cases as anything we have.

## For Our Patients.

### DECEIVED HYPOCRITS.

We stamp our character upon our face:  
In every act and word and move we trace  
The thoughts and passions cherished in the heart,  
Till we appear and act what these impart.

The man deceives himself who wears a mask  
To hide what dominates within. The task  
Of hiding is to close those subtle lights  
Through which the soul bursts outward to the sight.

—T. B. W.

### TREATMENT OF DECIDUOUS TEETH.

DR. GARRETT NEWKIRK, Chicago. With some one or more of his twenty deciduous teeth the child will be pretty sure to have trouble, unless trouble is prevented by intelligent foresight. What are the preventive means? First, as to original structure. Much depends on the health of the mother during the period of gestation. If she nurses her own child, as she should if possible, her influence continues through the period of lactation. Her food and her blood must contribute the necessary elements of tooth bone. I do not believe that, as a rule, anything special is necessary in the way of diet to provide for the teeth. Whatever supplies the elements of the body as a whole will be sufficient. Good blood and good milk are all we need. The conditions of the mother have more to do with the child's first set of teeth than with the second, because these are all developed and most erupted before the close of the nursing period. Calcification of the second teeth is going on for many years afterward when the child is pursuing an independent dietary life. In so far as the quality, preservation or loss of the first teeth affect digestion and assimilation so far do they effect the structure of their successors.

What may physicians and dentists do? First. They can do something for the teeth by looking carefully after the health of patients during gestation. See to it especially that the food contains a large proportion of the elements of bone. Follow the same line of advice during the period of lactation. Second. Advice as to *cleanliness*. If we could succeed in keeping teeth clean, whether first or second, they would not decay. Mothers should learn to clean the teeth of their children till they are old enough to do it for themselves. The mouth of a child should be examined every day, particularly after he begins to take solid food, and the teeth guarded at the points of danger. The proximating surfaces that is "between them;" in the fissures of the molars, and just

at the margins of the gums. The *physician*, in examining the child's mouth, may just as well, if he thinks of it, note the general condition of the teeth. If they give evidence of neglect, he can enjoin cleanliness. If any are decaying, he can advise a consultation with the dentist. Again, the physician should avoid the administration, without caution, of medicines having a destructive effect, notably the tincture of the chloride of iron. However well these agents may be diluted for administration, they should be immediately followed by thorough rinsing with water slightly alkaline. With children their use should be avoided, if possible.

#### SIMPLIFIED SPELLING.

We wish sum wun wod tel us why our prevāling mode ov speling iz beter than iz ūzd in this articl. Chānjez ar constantly taking plās in our speling, eny how ; why not hav it chanj for the beter?

Consider how much ēzier this simplifiēd speling cod be lernd by our children and by forenerz, how meny leterz it wod save in riting and printing, how much ēzier it wod be ritn and red by al ov us, and how soon the English languaj wod thus becum the dominant languaj ov Crisndum.

Our languaj iz now the noblest, the richest, the most comprehensiv, and the best adapted to al purposez ; why not giv it wings by simplifying its speling ?

If simplifiēd speling woz wuns adopted, hō wod return to the absurditiz now in use ? It wod be as imposibl az to get our prezent conservativz to go bac to the speling ov our fōrfatherz whar we rēd :

“When he was come downe from the mountayne, moch people folowed him. And lo, ther came a lepre and worsheped him sayings : Master, if thou wylte, thou canst make me clene. And Jesus put forthe his hand touched hym, sayinge : “I wyll, be thou clene, and immediatly hys leprsie was censed. And Jesus sayde unto him : Se thou tell no man but go and shewe thyselfe to the preste and offer the gyfte that Moses commaunded, in witnes to them. When Jesus was entred into Capernaum ther came vnto him a certayne Centurion, and besought him sayinge : Master, my servaunt lyeth sicke at home of the palsye, and ys grenously payned. And Jesus sayd vnto him : I will come and heale him. The Centurion answered and sayde : Syr I am not worthy that thou shouldest come vnder my rofe, but speake the word only and my servaunt shall be healed, for I also myselfe am a man vndre power, and I saye to one, go and he goeth, and to anothre, come and he cometh ; and to my servaunt, do this and he doeth it. When Jesus hearde that he marveled and sayd to them that folowed hym, verely I say vnto you, I have not founde so great fayth, no not in Isreal.”

## HELD UP BY STRATEGY.

"Irene," exclaimed the young man, a pang of jealousy shooting through every fiber of his heart as he noted a ring he had never seen before on one of the fingers of her left hand, "is that an engagement ring?"

"I will not deceive you, Mr. Kiljordan," replied the young lady, blushing deeply. "It is what might be considered a conditional engagement ring. The matter is not positively settled as yet, but mamma thinks Mr. Peduncle—"

"Then it may be that I am not too late," said Bardolph Kiljordan passionately, the violence of his emotion breaking down every barrier of reserve that the cold, calculating behests of expediency had erected between himself and his heart's idol. "Irene, I had not thought to say to you for months, perhaps years, the words that now come thronging for utterance and will no longer be stifled. I had intended to wait till time should prove the depth and sincerity of the feelings with which you have inspired me, and till I could speak with the confidence of one who is certain of his foothold and has gained an assured position in life. But you know something of my prospects, Irene, and I have sometimes dared to think that I am not altogether displeasing to you. Can you not give me some hope that I have not aspired in vain—that your own heart echoes the throbbings of mine which almost choke my utterance? Give me the right, Irene, to call you my own, and to feel sure that no man, henceforth and forever, can stand between me and all earthly happiness. Will you?"

"I will, Bardolph."

And the eloquent stillness that followed the softly spoken words of the fair young girl was punctuated by that old yet new sound, that rapturous, wild, fervid unpronounceable percussion whose ecstatic articulation marks the climax of two trusting lives.

"Irene," said the youth, after a pause, "you will let me remove this 'conditional engagement ring' now, will you not?"

"Certainly, Bardolph, though it is really of no importance. Take it off if you wish."

"And now tell me of that conditional engagement, my own."

"It was an engagement to meet Mr. Peduncle at 2 o'clock next Saturday afternoon should the weather be fair enough for me to venture out. I put it on myself so I would not forget it."

"To meet Mr. Peduncle? Where, let me ask!"

"At his office, of course. Don't you know Mr. Peduncle?"

"No. Who in the name of Christopher Columbus is he?"

"The dentist. One of my teeth——"

"Trapt!" said the young man in a deep tragic tone.—*Chicago Tribune.*

## Editorial.

### APPEARANCES.

Our success depends much on our appearance. The first impression patients receive on seeing us, or on coming into our office, generally remains. If everything is neat and clean, and our appearance and manners are intelligent and professional, there is a favorable impression that is worth gold. But if shiftlessness reigns, or there is an unkept, careless appearance, it requires much good work to obliterate first prejudices.

And it does not cost much to be good looking. It is not necessary to be a dandy, a coxcomb, or even "as pretty as a woman." But we may have transparent skin, by thorough cleanliness; we may make beard and hair an ornament, by tasteful care; we may have attractive professional air without much extra cost; we may have urbane manners, and warm smiles, and an intelligent and the unconscious glow of an honest heart. These qualities make even a homely man good looking. Both the office and the person may be made quite presentable by plenty of soap and elbow grease. It is not a gaudy appearance that attracts. If everything about is scrupulously tidy and clean, it goes a good way toward giving an impression of intelligence and skill.

Thrift and ability supposes general surroundings of a high order, and it pays to have them, if *we are made for them*, or can by great effort prepare ourselves for them. The best office in the land would be a burlesque with a blockhead in it; and it would only make the picture the more grotesque for the blockhead to mimic sense. The office does not make the man, but the man the office; just as the instrument does not do the work, but the dentist behind the instrument. This is the reason the numskull who expects to jump into a good workman's boots by buying his office and the "good will," finds there was one thing lacking in the inventory—brains. So if you are really an inferior dentist, with an inferior social standing, and there is not much prospect of more than a moderate improvement, we advise you to have an inferior office, and not deceive your patients by having an office superior to yourself.

But perhaps there is little use in writing these things, for we are generally what we appear to be. The *man* must be improved to the very core to materially improve his surroundings.

Yet we see dentists who do good work, and are intelligent, nice men, who give the lie to their real character by having an inferior office; by lacking a professional presence they wrong themselves, and unnecessarily repel many of the better class of their community:

They had better forego all luxuries in their homes, and live on half rations for a year, and put savings in a *well* furnished, advantageously located office, a nice professional suit of clothes, best instruments, a sumtuous chair, and everything that will bring them into the social position of their best patients. If we have said a word that shall spur this class up to take on better surroundings, and a better personal appearance, we shall be pleased.

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#### WHY DR. JONES DID NOT SUCCEED.

He was capable, quite commanding in his appearance, and impressed visitors on first sight as a man of promise. Yet he did not succeed. A few *but*s were in his way.

He had skill, *but* he was impetuous and impatient—too anxious to see the end of his work, and therefore often had failures where he might have had success.

He had naturally a noble bearing, *but* he was austere and self-important, and therefore offended where he should have been congenial.

He was quite winning in his address, when he made this his purpose; and he easily obtained your confidence, when this was his interest; *but* he was often repulsive, and sometimes abused your confidence by little undefinable acts or language that soon threw you on your guard, and finally made familiarity breed contempt.

He was dexterous in his manipulations, *but* he was careless, often inflicting pain unnecessarily, subjecting his patient to uncomfortable positions and annoyances, making slips that were irritating; and doing some thoughtless thing, which made necessary—"O, excuse me."

He was always ready to serve you, *but* his instruments were never ready; they had not been put in place since the last operation; they were not even clean, and the dirty napkin was still visible; the spittoon was besmeared, and on the floor were strewed pellets of cotton or paper; there was a general unkept appearance.

His reception-room was of the first-class; fine furniture, beautiful carpet, costly pictures, and an appearance of wealth that was luxurious; *but* the carpet was dirty, the furniture and pictures dusty, and the whole apartment slovenly.

He was generally in the office and attentive, *but* often had to be sent for—he had only stepped out for a moment, *but* that moment was so uncertain he usually had to be sent for, and was not always easily found.

As unkept as his office might be (he said it gave it the air of business), and as unclean and disordered his instruments (this gave him the excuse to say his patients hurried him too much), yet *he* was



always trim and neat and presentable himself; *but* he did often smell of tobacco, and sometimes of that still more disgusting stale smell of its use. It seemed as though there was also a smell of stale beer, though this he repudiated, for he never drank—almost never; that is, in office hours, unless unexpectedly called out with a friend; and, in fact, his smoking was done out of office hours, unless he had occasion to be out on business, and then he had a perfectly effectual way of disguising his breath, or thought he had.

As for his morals, he was scrupulous to the last point, really esthetic and unexceptionable, handling his patients with kid gloves; *but*, of course, "it was none of his patients' business what he was out of office." With them he was the pink of propriety; with his chums he was—well, "that is none of anybody's business."

And yet he failed, and he was sure to lay the cause of his failure at the door of his best friends rather than himself. It was a mystery how one and another had turned against him. Even his chums visited him only to lounge and be in the way of respectable patients. Finally the last step downward was reached by his office being made, out of office hours, a smoking-room.

How many dentists are killing themselves by having one or more of these ugly *buts* fastened on their face?

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**Be the Master of your Situation, not the Servant.**—You may not be able to master great enterprises, nor command a position specially eminent and responsible; but if you are where you belong, you may be master of *your* situation. There are men who must have some one over them in the most simple calling. They cannot even mix mortar, carry brick, hew stone, or plane boards, without some one over them to direct them. These are servants. By proper study, and intelligent application to their business, they could easily become masters, and lead in the art of mortar making, brick carrying, stone cutting, and board planing, though they might not be able to master the whole mystery of house building.

In dentistry, especially, there is little room for subordinates, and still less room for subordinates to be financially successful. Of course all must learn, and while one is learning, he must be servant to his teacher. But in our profession, to remain in any subordinate position is unprofitable, unmanly, and unreliable: the wages are too small for respectable support, the relation is too subservient for the dignity of an intelligent workman, and the situation is too precarious for a permanent position.

It is true, some men are not adapted to prosthetic dentistry, though they may make good operators, and *vice versa*; but this is not a reason

why one should be servant to the other. Dr. Haskell is a better plate workman than Dr. Allport, and Dr. Allport is a better operator than Dr. Haskell; yet each in his sphere is master of his situation, and it is difficult to say which could get along easier without the other.

Therefore we say, as soon as reflection, trial and circumstances will bring out your talents, and your free preferences show your bias, determine your position in the world's busy market, and then thoroughly prepare yourself to master your situation, however humble that may be.

The world's work is more and more dividing itself into specialties. Only a few can be learned and skilful and successful in more than one department, but nearly all may be proficient and happy and prosperous at something. Let us each choose something, and in that be "King of all we survey."

We repeat it: in dentistry, especially, there is room for few subordinates. If you are too unskilful to command your position, then, as a blunderer, you are a continual thorn in the flesh of your employer, though your wages are ever so low; if you are skilful, you are a continual menace to your employer: he must give you either a proper interest and position in the business, that you may stand by his side, or he must continually fear you as a competitor. He may hide you for a time, but real ability will ultimately show itself to the benefitted, and be in demand as an appreciated and essential, if not an independent factor.

Usually bees will swarm; and usually men, when they really become men in their calling, are obliged to assume the responsibilities and position of independent men, or they are crowded aside and become of little consequence. There are only a few that can with dignity, success and profit play second fiddle. They may not have the superior qualities qualifying them for greatness, or great success. but if they are ambitious, and reasonable in their ambition, they will have success in proportion to merit, and they should know that their position and their success are in their own keeping.

**The Importance of Electricity** in vegetable and animal life is seen in the fact that respired oxygen will not sustain life even though it be deprived of its carbon. But if it is subjected to the action of electricity, it is at once possessed with the wonderful property of sustaining life. So in the atmosphere, the mere presence of oxygen is not enough; how drowsy we often become before a thunder storm, but, after electricity has played its freaks, we are wonderfully revived.

What a wonderful subject this electricity is? Though we have learned more concerning it during the last twenty-five years than during the previous twenty-five centuries, we have yet much to learn; it is still a mystery.

### AUTOBIOGRAPHY OF AMBROSE MORRISON, M. D.

I was born in Nashville, Tenn., May 25, 1849, and have resided in this State, with the exception of six years spent in hard work cultivating a farm in Ohio and making a tour of Europe in 1873. I commenced the study of medicine in 1874; graduated from the Medical Department of Vanderbilt University in the spring of 1876 (being the successful competitor for the gold medal awarded to the most proficient student in Physiology); received the "ad eundem" degree of the University of Nashville (Medical Department) in 1878. I have been for six years Secretary of the Tennessee State Medical Society, and for one year its First Vice-President; am at present and have been for the past ten years Lecturer on Experimental Physiology, Microscopy and Hygiene in the Medical Department of the University of Nashville and Vanderbilt University. Have been Professor of Anatomy and Physiology in the Department of Dentistry of Vanderbilt University since 1881 and '82; also Secretary of the Faculty. For the last three years I have been editor of "*Dental Headlight*."

Very Resp'y,                      AMBROSE MORRISON.

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**Words** are beautiful things, but they may be used so carelessly, and thrown about in such confusion, as to be as mere trifling toys in the nursery, useful in their way, but at best play things to be neglected. But they may be nuggets of gold, found loosely rolling about in the river bed or hidden in their deep recesses; which being gathered and properly prepared, become ornaments of grace, treasures of wealth, and, in the industries, invaluable. Yet they are, even when possessed, useful or useless. They buoy us up or weigh us down. They are our help or our hindrance, according to our use or abuse of them.

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**The American College of Dental Surgery**, Chicago, has just closed a successful term with 39 matriculates and 9 graduates.

A member of the senior class writes us: "As a class we have been much interested in the many good articles the **ITEMS OF INTEREST** has given us, and appreciate its free delivery to each of the class. We, hereby, extend our hearty thanks for the favor."

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**The Chicago Dental Society** seems to thrive. Its score of officers embrace some of the first dentists of the city.

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**Minnesota Hospital College**, dental department, during its last session had 38 matriculates and 8 graduates.

**Volapuc.**—Prof. Bell's testimony on a world language is of special weight, as his interest in a universal language is greater perhaps than any other man living. He says in *Science* that what we want is not a language made from many languages, as proposed in Volapuc, but such a modification of the English as shall meet the general demand of all civilized nations. As he says, the English is the leading language now, and is fast becoming the common vehicle for commercial international communications. Cast off its swadling clothes that now bandage its beautiful language, and clothe it with proper orthographic expression, and it would bound forward amazingly.

**March number** of *ITEMS*, as usual, is a feast of good things. I glory in your courage in defending the spelling reform. Those unique poems show up the inconsistencies of our spelling more forcibly than anything of which I know. I only wish more journals would champion the cause with as much intelligence and courage.

ONE OF YOUR READERS.

**List of Dental Schools constituting the membership of the National Association of Dental Faculties :**

1. Baltimore College of Dental Surgery, Baltimore, Md.
2. Boston Dental College, Boston, Mass.
3. Chicago College of Dental Surgery, Chicago, Ills.
4. Harvard University, Dental Department, Cambridge, Mass.
5. Kansas City Dental College, Kansas City, Mo.
6. Minnesota Hospital College, Dental Dep't, Minneapolis, Minn.
7. Missouri Dental College, St. Louis, Mo.
8. New York College of Dentistry, New York City.
9. Ohio College of Dental Surgery, Cincinnati, Ohio.
10. Pennsylvania College of Dental Surgery, Philadelphia, Pa.
11. Philadelphia Dental College, Philadelphia, Pa.
12. St. Paul Medical College, Dental Department, St. Paul, Minn.
13. University of California, Dental Dep't, San Francisco, Cal.
14. University of Iowa, Dental Department, Iowa City, Ia.
15. University of Michigan, Dental Department, Ann Arbor, Mich.
16. University of Pennsylvania, Dental Dep't, Philadelphia, Pa.
17. Vanderbilt University, Dental Department, Nashville, Tenn.
18. Northwestern College of Dental Surgery, Chicago, Ill.
19. Louisville College of Dentistry, Louisville, Ky.
20. Indiana Dental College, Indianapolis, Ind.
21. Dental Department of Northwestern University, Chicago, Ill.
22. Dental Department of Southern Medical College, Atlanta, Ga.
23. Dental Dep't of University of Tennessee, Nashville, Tenn.
24. School of Dentistry of Meharry Medical Department of Central Tennessee College, Nashville, Tenn.

## THE DEVELOPMENT OF OUR FACULTIES BY USE.

The more we use our faculties the more we expand and strengthen them, and the better medium they become through which to discern right from wrong, wisdom from folly, advantage from disadvantage. The more sharply we investigate subjects, the farther we can penetrate them, the better we can extract the good and reject the bad, and the keener will be our wits in all directions. And yet using our faculties much, and investigating with severe effort, does not take the place of the systematic, intelligent, and laborious *cultivation* of our powers. This is essential if we would put them to their utmost usefulness, and enlarge and strengthen them to their fullest extents. A wise man says, "Give me a larger eye, and I will reveal to you another rank of worlds marshalled behind those shining hosts you now behold." Well, we enlarge the eye by use, especially by looking down through the microscope and up through the telescope; but the wandering, uncultivated eye sees nothing through either that might be seen by a close, continued, concentrated view. The untrained eye, to see what the studious scientist and the mature specialist see, must look and look, and look again; and thus, day after day and week after week, he must try and try and try again, to produce clearness, distinctiveness, and intelligence of vision. But finally the eye's capacity becomes enlarged, and the mind's culture takes in the wonders thus revealed to the diligent investigator. In the same manner are all other faculties improved.

So we see, it is not so much the mere acquisition of knowledge, as the ability to appropriate it, that makes us wise; and that even wisdom, as a mere possession, is not all we should crave, but the culture, maturity and fruitfulness that the process of acquiring wisdom produces.

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**Platina can be made to adhere to gold** by soldering, in the following manner: A small quantity of fine or eighteen carat gold should be sweated into the surface of the platina at nearly a white heat, so that the gold shall soak into the face of the platina. Ordinary solder will then adhere firmly to the face obtained in this manner. Hard solder acts by partially fusing and combining with the surfaces to be joined, and platina alone will not fuse or combine with any solder at a temperature anything like the fusing point of ordinary gold solder.

## MEETING OF DENTAL SOCIETIES.

## MAY.

Illinois, Tuesday the 8th, at Cairo.  
 Mississippi, 3rd Tuesday.  
 Nebraska, 15th, at Grand Island.  
 Texas, 1st Tuesday, at Dallas.  
 Northern Ohio, Plainsville, O., 8th.  
 New York, Albany, 9th.  
 Mad River, Dayton, 19th.

## JUNE.

New Hampshire, 3rd Tuesday, at Concord. E. B. Davis, Secretary, Concord.  
 Colorado, 1st Tuesday.  
 Pennsylvania, 1st Tuesday, Philadelphia.  
 Indiana, Terre Haute, 26th.

## JULY.

Missouri, 1st Tuesday after July 4th, at Pertle Springs. William Conrad, Secretary, St. Louis.  
 Wisconsin, 3rd Tuesday, at Milwaukee.  
 Connecticut Valley and Massachusetts, 10th, at Boston.

## AUGUST.

American Dental Association, 4th Tuesday, at Louisville, Ky.  
 Georgia, 1st Tuesday, at Dalton. L. D. Carpenter, Secretary, Atlanta.

### MATRICULATES AND GRADUATES AT THE LAST SESSION OF DENTAL COLLEGES.

	Matriculates.	Graduates.
Baltimore College of Dental Surgery.....	114	53
Central Tennessee College, dental department....	12	0
Howard University, dental department.....	20	8
Indiana Dental College.....	30	17
Kansas City College, dental department.....	23	8
Minnesota Hospital College. ....	38	8
Missouri Dental College.....	35	13
New York Dental College.....	211	72
Ohio College of Dental Surgery.....	121	46
Pennsylvania College of Dental Surgery.....	160	58
Philadelphia Dental College.....	215	118
University of Iowa, dental department.....		20
University of Ohio, dental department.....		20
University of Maryland, dental department.....	109	49
American College of Dental Surgery.....	38	8

## Miscellaneous.

### COMMON MYTHS.

There are many ignorant folk, wondermongers, and even scientific observers, who have disseminated many erroneous and exaggerated notions which are readily eradicated. We are still told, for instance, of the Norwegian maelstrom, a frightful whirling chasm in the sea, capable of sucking down the largest ships; though, in reality, this fearful "whirlpool" is simply a run of the tide through a sloping channel, is rarely dangerous, and then chiefly on account of the rocks on which it may draw vessels. Sir John Herchel gave his endorsement to the statement that stars may be seen in the daytime from the bottom of a well, but this has been proven to be an error by tests from a shaft nearly half a mile deep. John Murdock has recently shown that the Esquimaux do not, as text books of physiology affirm, doze through their long winter night, keeping up their bodily heat by enormous meals of raw blubber and lamp oil, but that their winter life is active, their food mostly cooked, and their consumption of oil not excessive. A still widely accepted belief is that the hair snake is a wonderful transformation of a horse's hair when kept in water, though these odd creatures (known to science as *Gordius aquaticus*) really grow from eggs, and in early stages inhabit the body of insects. A very old idea, without foundation in fact, is that crocodiles shed mournful tears; while stories of toads imprisoned in solid rocks are numerous, and supported by much evidence, but have probably resulted from imperfect observation. Accounts of the germination of grain from the mummy pits of Egypt have arisen from deception practiced by the Arabs in placing fresh seeds with the belongings of the mummies. Though now known to be incorrect, the inference that the moon influences the weather is a very natural one to untrained observers, and is far less observed than a thousand vagaries that gain credence, such as the dropping of live reptiles from the clouds, the ejection of live snakes and other creatures from the human stomach, the localization of water by a forked stick, the extinguishment of fire by sunshine, etc.

**The Origin of Gas and Petroleum.**—Dr. Phinney in *American Manufacturer*: The theory advanced some years ago by Professors Newberry, T. S. Hunt and other eminent scientists regarding the origin of these products have not been much improved on, though we have to-day a wider and riper experience. That they are the result of decomposition and of animal and vegetable material is no longer of speculation. The chemical hypothesis regarding the formation of gas from certain complex reactions that are supposed to take place at great depths in the earth has not a single observed fact for its support. It has found many advocates simply because it promises a continuous supply. Perhaps no other explanation has gained such a hold on the mass of the people, and for no other reason than that they desire the supply to be everlasting, and they are of course more ready to accept what is to their interest than any explanation, however, susceptible of proof, that questions the permanency of the supply. No one can tell how long the supply will last, and any estimate would be mere guess work.

So far as now known there has been no diminution of rock pressure or diminished flow from any of the good wells. A few weak wells located near the salt water horizon are failing, but this is to be expected. If the gas is largely derived from the volatilization of the oil, and it is probable that this is true, then we may expect the gas to last a long time. The Trenton limestone in this State probably contains in the aggregate a large quantity of petroleum, but whether it will ever be found at any locality in large quantity the future must determine. While we may hope that the supply of gas will prove sufficient for many years, it would be the part of wisdom to prevent the lavish waste that has been going on for the past few months. It is also wise to say the least to be on the safe side, and to draw no more from our reservoir than our needs demand. Even admitting that the gas is constantly being generated there is no probability that this process is taking place with anything like the rapidity that it is escaping from the many wells; hence, it is reasonable to infer that the time will come when our wells will have a diminished flow.—*Power and Transmission.*

**Liquid Cement or Gum.**—To make one gallon of the gum, about one and a half gallons of water, three pounds of glue, four ounces of borax and two ounces of carbonate of soda, or an equivalent of any other alkali, are taken. The glue and alkaline salts are dissolved in the water by heat, and the solution is kept at a temperature a few degrees below boiling point for five or six hours. The continued application of heat renders the gum permanently liquid at the ordinary temperature. After allowing the sediment to settle, the clear liquid is evaporated to the required consistency.

**Iron Brick.**—The German government testing laboratory for building materials, has reported on a new paving block called iron brick. This brick is made by mixing equal parts of finely ground red argillaceous slate and finely ground clay, and adding five per cent of iron ore. This mixture is moistened with a solution of 25 per cent sulphate of iron, to which fine iron ore is added till it shows a consistency of 38 degrees Baume. It is then formed in a press, dried, dipt once more in a nearly concentrated solution of sulphate of iron and finely ground iron ore, and is baked in an oven for 48 hours in an oxydizing flame, and 24 hours in a reducing flame.—*Trustees' Trade Journal.*

**Dyspepsia.**—In those forms of dyspepsia which are associated with the formation of gases, acid eructations and fermentative action in the contents of the stomach, listerine has proven most valuable. In many cases the listerine alone, in teaspoonful doses, or diluted with one or two parts of water or glycerine, will give entire relief. Its administration in full strength is especially recommended when agreeable to the patient. In other cases it may be necessary to combine with it an alkali, as bi carbonate of soda, or a few drops of the liquor potassæ. Before meals and after, when eructations begin, is the best time for administration, or at intervals of a half hour or hour, when trouble is aggravated.—*Dietetic Gazette.*

Out of twenty young men who competed for a West Point cadetship at Westfield, Mass., ten were rejected by the physician because they had "the tobacco heart," brought on by cigarette smoking. They were unfit for West Point service.—*Boston Traveler.*